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EXPERIMENTS ON THE RELATION OF DISSONANCE AND CONTEXT—PART TWO[1]

BY

R. W. PICKFORD

(*From the Psychology Department, Glasgow University*)

I. *Fourth Experiment* (pp. 107–109). II. *Results:* (a) *General* (pp. 110–111). (b) *Factorial Analysis* (pp. 111–114). (c) *Comparison of Conditions* (pp. 114–115). III. *Discussion of Experiment IV* (pp. 115–117). IV. *Summary and Conclusions: Part* II (pp. 117–118). V. *General Conclusions* (p. 118). *Acknowledgments* (p. 118). VI. *References* (p. 119).

II

FOURTH EXPERIMENT

As a result of the interest aroused by the publication of the collected results of the first three experiments on the relation of dissonance and context (Pickford, 1948), it was decided to carry out a fourth experiment in which there might be some possibility of separating the effects of different types of musical setting on the impression of consonance or dissonance given by a chosen chord. It seemed that factorial analysis might be expected to yield useful results, and the experiment was designed accordingly.

It was decided to use a single dissonance again, namely the seventh on the supertonic when in C major, omitting the fifth, and to make a series of settings for this chord, which would vary in key, position of the chord in the bar and mode of approach (whether by leap or step or by suspension of the dissonant seventh). In order to make the passages as uniform as possible in other ways, they were all constructed in common time, and in moderate tempo. All began on the third or fourth beat of the previous bar and ended on the first or second beat of the succeeding bar to that in which the dissonance occurred. The limitations of the utility of factorial analysis for very large tables, and the amount of work involved in calculating very large numbers of inter-correlations, suggested that about eight passages would be suitable for this experiment, and these are shown in Figure IV.

In order to make as sure as possible that the subjects were distinguishing between liking–disliking and consonance–dissonance in their judgments, they were asked to rate the chords for both these qualities, as in Experiment III. They were asked to rate the passages on a three-point scale: plus for consonance (or liking), zero for indifference and minus for dissonance (or disliking). The passages were played by Mr. P. A. D. Gardner to a group of 61 students, who came in response to a general invitation extended to the members of the psychology classes at Glasgow University in the Session 1947–8. Each was provided with a duplicated record sheet and the plan of the experiment was explained to them, though not its purpose. They were also told that dissonance was to be interpreted as harshness, and consonance as smoothness, in the combination of the notes of the chords in question. Neither the judgments of consonance–dissonance nor those of liking–disliking were to apply to the passages as wholes, but only to the chords indicated, one in each passage. The writer was provided with a key, and momentarily switched on a 4-volt lamp fixed in a stand in full view of the subjects when the test chord was sounded. Several trials

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[1] Based on a paper read to the Scottish Branch of the British Psychological Society, at St. Andrews, on 8th May, 1948.

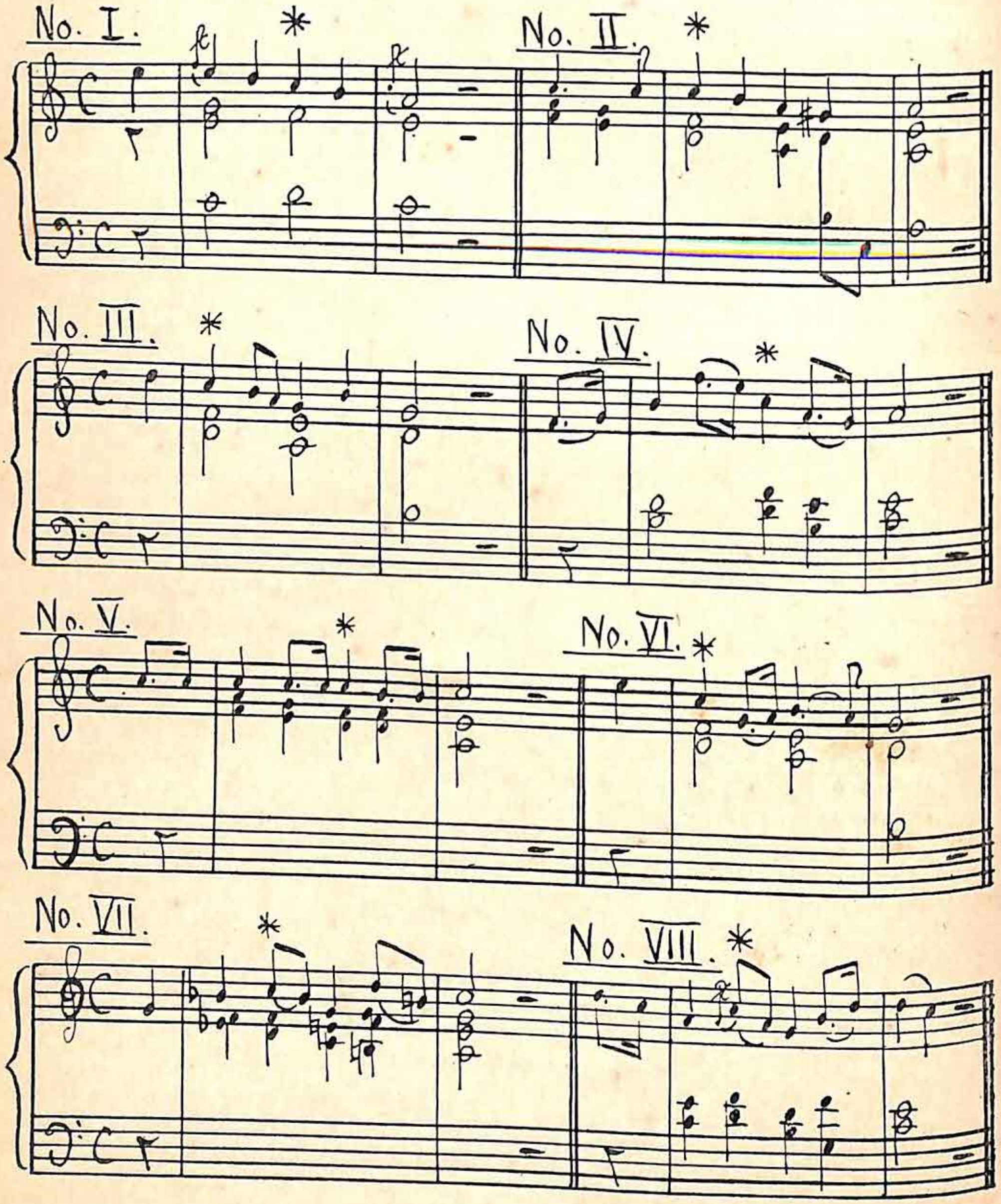

FIG. IV.

were given for each passage, until all the subjects were satisfied that they had rated the correct chord in accordance with the instructions. All the subjects had attended practical classes and lectures dealing with the psychology of auditory experience and of music. No difficulty was met in carrying out the experiment.

One of the most interesting problems to be dealt with was the possible effect of many rather than few overtones in the sounds employed in the experiment. The importance of this was very great, because of the significant part played by overtones in Helmholtz's theory of dissonance. "Combinational tones," he says, "are the most general cause of beats. They are the sole cause of beats for simple tones which lie as much as, or more than, a minor third apart." (Helmholtz, 1895, p. 204.) In the test-chords of the passages used in this experiment the only dissonant interval was a seventh, d′ to c″, since the other intervals, d′ to f′ and f′ to c″ were consonances. The chord was therefore of critical interest for Helmholtz's theory, since beats arising from combination tones would be required to give the impression of dissonance for the interval of a seventh on an instrument without overtones.[1] It was therefore arranged to play all the passages on the piano and also on the dulcitone, a small keyboard instrument in which tuning forks replace the wires of the piano. In considering the relative capacities for the production of beats on the two instruments, we may compare them on the principles given by Helmholtz. On the piano, which is rich in overtones, the minor seventh ($d' : c'' = 288 : 512$) may produce beats at the rate of 64 per second by several combinations of primes, overtones and difference tones: $2 \times 288 - 512 = 64$; $288 - (512 - 288) = 64$; $(512 + 288) - (512 - 288) - 512 = 64$. Myers (1928) (pp. 36–7) points out that beats at the rate of 64 per second in the neighbourhood of middle C would be inaudible, and we must look for beats at about half this rate to give a decidedly rattling effect. These may be produced from the given primes in remoter ways: $(2 \times 512 - 3 \times 288) - (4 \times 288 - 2 \times 512) = 32$; $(3 \times 288 - 512) - (3 \times 512 - 4 \times 288) = 32$. On the other hand, the dulcitone, which is almost or completely lacking in overtones, is limited in its production of beats for a minor seventh ($d' : c''$) to the effects of combination tones, and this would cut out the slower beats and leave only those at 64 per second. On the piano the rattling beats at 32 per second can be detected quite easily for this seventh, but they are only to be heard on the dulcitone if the primes are struck very hard, which has the effect of exciting the partials necessary for the production of these beats. In spite of what Myers says, it is quite possible that 64 beats per second add some roughness to the seventh, and that is why it seems slightly dissonant even on the dulcitone.

To counteract the effects of improvement due to practice in doing the experiment, and of increasing familiarity with the passages being played, they were given first on the piano, then on the dulcitone and finally on the piano again, in three different random orders, and the ratings for the piano versions were combined.

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[1] Helmholtz's discussion of this subject is most interesting, and the following passage is worth special attention. Helmholtz says:—

"Let us begin with the simple tones of *wide-stopped organ pipes*. In themselves they are very soft and mild, dull in the low notes, and very tuneful in the upper. They are quite unsuited, however, for the combinations of harmony according to modern musical theory. We have already explained that simple tones of this kind discriminate only the very small interval of a Second by strong beats. Imperfect Octaves, and the dissonant intervals in the neighbourhood of the Octave (the Sevenths and Ninths), beat with the combinational tones, and these beats are weak in comparison with those due to upper partials. The beats of imperfect Fifths and Fourths are entirely inaudible except under the most favourable conditions. Hence in general the impression made on the ear by any dissonant interval, except the Second, differs very little from that made by consonances, and as a consequence the harmony loses its character and the hearer has no certainty in his perception of the difference of intervals. If polyphonic compositions containing the harshest and most venturesome dissonances are played upon wide-stopped organ pipes, the whole is uniformly soft and harmonious, and for that reason also indefinite, wearisome and weak, without character and energy" (*loc. cit.*, p. 205). To a great extent these observations apply also to the dulcitone, though the first overtone is usually present in the *timbre* of the tuning fork and the dulcitone differs from the organ in being a percussion instrument.

II

RESULTS OF EXPERIMENT IV

(*a*) *General*. The subjects of the experiment answered a short questionnaire on musical interests and activities, and did Seashore's Tests of Musical Talent and the Oregon Test of Musical Discrimination. The results of these tests and the questionnaire gave correlations of zero with the ratings of the chords for consonance–dissonance level and for liking–disliking. The average correlation between liking–disliking and consonance–dissonance was + 0·09, showing that two qualities were effectively separated in the experiment.

The distribution of ratings for consonance–dissonance is given in Table VII, and it suggests that the chords were considered consonant rather less often than dissonant on the piano, but rather more on the dulcitone, but the Chi-squared test shows that neither of the differences in this table is significantly greater than zero. The number of ratings for "indifference" was so small that it was thought justifiable to distribute them equally among the others.

TABLE VII

RATINGS FOR CONSONANCE–DISSONANCE IN EXPERIMENT IV

	Consonant	*Dissonant*
Dulcitone ..	228	260
Piano ..	247	241

The distribution of ratings for liking–disliking is shown in Table VIII, and it suggests that the chords were more often liked than disliked, and that this difference was more marked when they were sounded on the piano than on the dulcitone. The differences in this table are statistically significant, even for very low values of P.

TABLE VIII

DISTRIBUTION OF RATINGS FOR LIKING–DISLIKING IN EXPERIMENT IV

	Liked	*Disliked*
Dulcitone ..	326	162
Piano ..	361	127

It would seem that the relative absence of overtones in the dulcitone does not alter the tendency for the test chords to sound dissonant as often as consonant, and this would give support to that part of Helmholtz's theory which attributes the dissonance of intervals as great as, or greater than, a minor third, to beats resulting from combination tones. In general it would also support Helmholtz's theory that dissonance is due to beats. It is important to point out that in this experiment there were no direct comparisons between any given chord as played on the piano and on the dulcitone. Since the dulcitone is relatively free from overtones, direct comparison of this kind would certainly result in a chord of the seventh (and probably most other chords) being considered much less dissonant upon the dulcitone than upon the piano. The figures in Table VII show that the chords retained their relative dissonance levels in their various settings despite the change of instrument. It is in this sense that Helmholtz's theory—that dissonance between pure tones as much as a seventh apart is caused by beating combination tones—is supported.

It is seen from Table VIII that, though the test chords were always liked more than disliked, they were much less often liked on the dulcitone than on the piano. This may have been due to the unfamiliarity of the *timbre* of the instrument, or to the greatly reduced loudness and sustaining power of the dulcitone.

(*b*) *Factorial Analysis.* Tables IX and X show the results of factorizing the four tables of inter-correlations of ratings of the eight chords, for consonance–dissonance and liking–disliking on the piano and on the dulcitone, by the simple summation method. It would be expected that these factorizations should reveal any consistent patterns of variability of the ratings inter-correlated, and they may be used as a basis for comparisons between the piano and dulcitone both for consonance–dissonance and for liking–disliking. In the following interpretations attention has been concentrated upon the most salient points.

TABLE IX

Factorizations for the Eight Test Chords: Piano, 61 Subjects

PIANO

No. of Passage	*Musical Character*	*Consonance–Dissonance*		*Liking–Disliking*	
		Factor I	*Factor II*	*Factor I*	*Factor II*
I	C Major Step Third Beat	0·592	+ 0·228	0·386	+ 0·351
II	A Minor Step First Beat Suspended	0·567	− 0·265	0·492	− 0·486
III	G Major Step First Beat	0·606	− 0·175	0·595	− 0·085
IV	Aeolian Mode Leap Third Beat	0·416	+ 0·346	0·406	− 0·113
V	C Major Step Third Beat Suspended	0·508	− 0·597	0·473	− 0·517
VI	G Major Leap First Beat	0·292	+ 0·076	0·592	+ 0·185
VII	C Minor/Major Step Second Beat	0·138	− 0·002	0·327	+ 0·243
VIII	C Major Leap Second Beat	0·414	+ 0·394	0·359	+ 0·509

TABLE X

FACTORIZATIONS FOR THE EIGHT TEST CHORDS: DULCITONE, 61 SUBJECTS

DULCITONE

No. of Passage	*Musical Character*	*Consonance–Dissonance*		*Liking–Disliking*	
		Factor I	*Factor II*	*Factor I*	*Factor II*
I	C Major Step Third Beat	0·417	− 0·592	0·664	+ 0·375
II	A Minor Step First Beat Suspended	0·248	− 0·279	0·269	− 0·236
III	G Major Step First Beat	0·417	+ 0·193	0·353	− 0·504
IV	Aeolian Mode Leap Third Beat	0·599	− 0·003	0·609	− 0·311
V	C Major Step Third Beat Suspended	0·436	+ 0·189	0·676	+ 0·494
VI	G Major Leap First Beat	0·532	− 0·309	0·293	− 0·416
VII	C Major/Minor Step Second Beat	0·491	+ 0·391	0·499	+ 0·358
VIII	C Major Leap Second Beat	0·518	+ 0·361	0·478	+ 0·271

A. PIANO

1. *General Factor* (*Consonance–Dissonance*).

Loadings tend to be high where the chord is approached and left by step, especially when emphasised by being on the first or third beat.

Loadings tend to be low where the chord is approached and left by leap (or step), especially (but not consistently) when the dissonant interval is suspended.

2. *General Factor* (*Liking–Disliking*).

Loadings are high where the chord is approached by step (or leap) and where the dissonance is suspended, especially when it is upon the first beat.

Loadings tend to be low where the chord is on the second or third beat and is approached either by step or by leap.

3. *Bipolar Factor* (*Consonance–Dissonance*).

Loadings are positive where the chord is approached and left by leap and is not emphasised.

Loadings are negative where the dissonance is approached and left by step, is emphasised and suspended.

4. *Bipolar Factor* (*Liking–Disliking*).

Loadings are positive where the chord is approached and left by step and is unemphasised, or by leap irrespective of emphasis.

Loadings are negative where the dissonance is suspended.

B. Dulcitone

1. *General Factor* (*Consonance–Dissonance*).

Loadings are high where the chord is approached and left by leap.

Loadings are low where the chord is approached and left by step.

2. *General Factor* (*Liking–Disliking*).

Loadings are high where the chord is approached and left by step and is on the third or second beat.

Loadings are low where the chord is approached and left by step or leap and on the first or second beat.

3. *Bipolar Factor* (*Consonance–Dissonance*).

Loadings are positive where the chord is on the second or third beat, especially if approached and left by leap.

Loadings are negative where the chord is on the first or third beat, especially where approached and left by step.

4. *Bipolar Factor* (*Liking–Disliking*).

Loadings are positive where the chord is on the second or third beat, especially if approached and left by step.

Loadings are negative where the chord is on the third or first beat, especially if approached and left by leap.

The main similarities and differences between the piano and dulcitone may be summarized here. In the general factor for consonance–dissonance the highest loadings for the piano are with stepwise treatment of the dissonances, but for the dulcitone handling by leap gives higher loadings. In the general factor for liking–disliking the piano especially emphasizes the suspended dissonances, while the dulcitone does not, but tends instead to reverse the effect of the general factor for consonance–dissonance on the same instrument. In the bipolar factor for consonance–dissonance on the piano the main contrast lies between handling by leap without emphasis and by step on an emphasized beat. The bipolar factor for consonance–dissonance on the dulcitone is similar. In the bipolar factors for liking–disliking the piano contrasts stepwise handling without emphasis against the suspension of the dissonance, whereas the dulcitone contrasts lack of emphasis with the presence of emphasis, but does not contrast the suspended dissonances with the other settings.

The interpretation of the results of factorial analysis always presents difficult problems, and the meaning of the factors must be settled by a careful consideration of the tests employed and of how they are grouped and contrasted in the resulting analysis. Here it would seem that for the piano the main factor influencing the consonance–dissonance level of the chords in this experiment was stepwise or leapwise handling, and, while the same factor operated also for the dulcitone, its effects were reversed. Step produced greater variations of dissonance level on the piano; leap on the dulcitone. In the matter of liking–disliking, suspension or otherwise of the dissonance produced the main variations on the piano, but on the dulcitone there was no such effect. In its place the general factor for consonance–dissonance was simply reversed for liking–disliking.

The bipolar factors show that the second order of effects on the consonance–dissonance level of the chords was produced mainly by handling by leap without emphasis in contrast to stepwise handling on the emphasized beat, and this held for the dulcitone. For liking–disliking the second order of effects was produced by the contrast between stepwise handling without emphasis and suspension for the piano, whereas for the dulcitone again the effects of suspension were lost and all that remained was the contrast between emphasis and its lack.

Thus it may be said that in order to exploit the consistency of dissonances the piano would require stepwise progressions, the dulcitone progressions by leap. At the same time, in order to exploit diversity of dissonance levels for given chords, both instruments should employ stepwise progressions with emphasis of the dissonance in contrast to progressions by leap in which the dissonance is unemphasized. Dissonances will be liked on the piano if suspended, but this is not true of the dulcitone, which requires emphasis rather than suspension to produce liking consistently. Nevertheless, on the piano diversity of liking and disliking will be produced by exploiting the contrast between suspensions and stepwise progressions without emphasis, while the dulcitone cannot utilize the effects of suspensions, but only those of relative emphasis.

(c) *Comparison of Conditions.* In order to clarify the problems and to enable the writer to draw some conclusions not easily drawn from factorial analysis, comparisons of the frequencies of the ratings under various sets of conditions were carried out by the Chi-squared technique. In all 30 2 × 2 tables and 4 3 × 2 tables were studied, with the following results.

1. *Major and Minor Keys*

The chords were possibly more consonant on the piano than on the dulcitone in major keys, but definitely more consonant on the dulcitone in minor keys. They were possibly more liked on the piano than on the dulcitone in major, but not in minor keys.

On the piano the chords definitely sounded more consonant in major than in minor keys, but there was no difference on the dulcitone. In liking there were no differences between major and minor keys on either instrument.

2. *Suspension of the Dissonance*

There was no difference between the piano and dulcitone in the frequencies of consonant and dissonant ratings according to the suspension or otherwise handling of the dissonance. There was no difference between the instruments for suspended dissonances, but those not suspended were much less liked on the dulcitone than on the piano.

Suspended dissonances were more consonant on both instruments, but no differences in liking were observed between suspended and other dissonances on either instrument.

3. *Step and Leap*

The piano gave more consonant effects for stepwise handling of the dissonances than the dulcitone, but there was no difference for handling by leap. The piano was more liked than the dulcitone for stepwise and possibly for leap effects, too.

Stepwise handling gave more consonant effects than leap on the piano, but not on the dulcitone. Stepwise handling was more often liked on both instruments than handling by leap.

4. *Position in the Bar*

First-beat chords were possibly less consonant on the dulcitone than on the piano, second-beat chords were unaffected by the difference of instrument, but third-beat chords were definitely less consonant on the dulcitone than on the piano. Second- and third-beat chords were more liked on the piano than on the dulcitone, but first-beat chords were not.

Second- and third-beat chords were not more consonant than first-beat chords on the piano, but on the dulcitone second-beat chords were less consonant than first, and third-beat chords less than second. There were no differences of liking due to position of the chord in the bar when played on the piano, but on the dulcitone second-beat chords were less liked than first, and third-beat chords more than second.

The chords referred to in all these observations are the particular test chords concerning which the subjects' judgments were made in the experiment.

Expressing these results in a more generalized form, it may be said that there was a tendency for the chords to seem less dissonant on the piano in major, but on the dulcitone in minor keys (including the Aeolian mode as a "minor" key for the purposes of the experiment). Neither the difference of instrument nor the difference between major and minor keys had any marked effect on the degree of liking of the chords. Suspended dissonances were more consonant than other dissonances on both instruments, but the suspension or other handling of the chords made no difference with respect to degree of liking, except that suspended dissonances were more liked on the piano than on the dulcitone. The stepwise handling of dissonances tended to make them more consonant on the piano and also more liked, while leapwise handling tended possibly to be more liked on the dulcitone, though stepwise effects were always more liked than leaps irrespective of the instrument employed. Emphasized chords were less consonant on the dulcitone than on the piano, but unemphasized chords were more liked on the piano than the dulcitone. Nevertheless, on the dulcitone first-beat chords were more dissonant and more liked than second- and third-beat chords, while there was no such difference either of consonance or of liking for the piano.

If we try to single out the main conditions which affect the dissonance levels and degree of liking of the chords used, it may be said that the piano tone favours a consonant effect in major, but the dulcitone in minor keys. Suspension of the dissonance, together with stepwise handling, tends to make the dissonances sound more consonant on either instrument. Stepwise effects are always more liked than leaps, though the piano is preferred to the dulcitone for leaps and steps.

III. Discussion of Experiment IV

The results of this experiment decidedly confirmed those of earlier experiments, which showed that the dissonance level of a chord may vary with its musical context, and that variations of dissonance level are distinguishable from variations in liking and disliking. The test chords were not significantly more or less often rated as dissonant on the dulcitone, an instrument relatively lacking in overtones, than on the piano, of which the *timbre* is rich. Since the relative dissonance of the chords was retained on the dulcitone, in spite of the lack of overtones, the experiment gave support to Helmholtz's hypothesis that combination tones would establish the dissonance of a chord as wide as a minor seventh on a pure-tone instrument. The test chords were much more often liked on the piano than on the dulcitone.

Factorial analysis tended to show that the piano would be able to exploit consistency of dissonance levels in spite of changing contexts most successfully in stepwise progressions, the dulcitone in progressions by leap. Both instruments would be able to exploit variations of dissonance level with changing context most effectively by employing stepwise progressions with emphasis of the dissonances, rather than leaps without emphasis. Comparison of conditions showed that the piano tended to give consonant effects in major but the dulcitone in minor keys, while stepwise handling and suspension of a dissonance tended to make it sound more consonant on either instrument. In general, emphasis tended to intensify dissonance.

It is necessary to try to understand these points in terms of the musical character of the instruments employed and in terms of the presence of beats in the piano *timbre* and their relative lack in the *timbre* of the dulcitone. The greater sonority and sustaining power of the piano, and its capacity for dynamic effects, enables it to handle dissonances most consistently by step. The weakness of the dulcitone in all these ways enables it to handle them most consistently by leap. It requires the leap approach in order to handle a dissonance effectively. Despite this difference, for both instruments the well-recognised general principle of music is true, and is demonstrated by the experiment, namely, that dissonances are employed with most flexibility in stepwise progressions and must be emphasized.

The need for emphasis of dissonances has been the subject of very interesting discussions, particularly by Quantz, an 18th-century composer and musical theorist, in his studies of gradation of tone in his treatise on the flute. His observations are summarised and discussed in the most interesting way by Arnold (1931, pp. 407–414), who points out that Quantz held a special theory. It was that "a discord is, in itself, unpleasant to the ear, and that, the harsher the discord, the more it requires to be emphasized, in order that the gratification caused by the subsequent concord may be proportionately enhanced." "Quantz divides discords into three classes, according to the amount of emphasis which they require: (1) *mezzo-forte*, (2) *forte*, (3) *fortissimo*." These degrees of loudness were not to be regarded as absolute, but as relative to the degree of loudness prevailing at the moment. It is also pointed out by Quantz that the position in which chords are taken makes a great difference, dissonances in which the notes are close together tending (as we should expect from the theory of Helmholtz) to sound harsher than when far apart. He discusses the influence of the instrument, and points out that it is in the pianoforte that all the requirements of the musician can be best satisfied. However, he also indicates that "good judgment and sensitiveness of soul must also play a large part," and Quantz was guided first and foremost by his musical understanding of the passage in question. Similarly, C. P. E. Bach points out that "It is not really possible to determine the cases in which *forte* and *piano* are appropriate, because even the best rules suffer exceptions as numerous as the cases they establish; the special effect of this light and shade depends on the ideas (Gedanken), on the combinations of ideas, and, in general, on the composer, who can, with a reason, just as well introduce a *forte* where at another time there was a *piano*, and who often marks a phrase, together with its consonances and dissonances, now *forte* and now *piano*." (Quoted by Arnold (1931), p. 413.)

The dulcitone would seem to present the musician with conflicts which the piano avoids. Both consistency and flexibility of dissonances are best exploited on the piano in stepwise progressions. On the dulcitone flexibility is best exploited by step, but consistency by leap. Apart from this interesting difference, the experiment supports the view that, in general, suspensions and stepwise progressions tend to make dissonances sound relatively less harsh. On the piano suspended dissonances tend to be liked more than on the dulcitone. Thus, while the smoothness of musical handling always leads towards a consonant effect, it requires the sonority of the piano (or orchestra or other instrument) to exploit the hedonic value of suspended dissonant effects. This is hardly surprising.

Finally, the writer would like to put forward a general impression which will appeal to musicians, and which accords with the ideas of Quantz and C. P. E. Bach, but which is difficult to support here by crisply definite statistical results. It is that the major influences at work in varying the dissonance levels of the dissonances employed in music are due to the import, significance or musical meaning of the passages in which they appear, rather than to mechanical differences of a technical nature, such as position in the bar, leap or stepwise handling, suspension and so on. The latter are important points in musical structure, but are merely the parts of the framework of composition, by which the composer creates his effect. This effect, however, is less easily definable in analytic terms, but resides in the passage as a whole. The tolerance we have for dissonances certainly depends in part on the degree of sonority of the instrument used, on its sustaining power and dynamic capacities, and also upon the details of the musical structure in terms of bar, key and relative emphasis, but in the main it depends on what the composer is expressing and how successfully he expresses it.

IV. SUMMARY AND CONCLUSIONS: PART II

An experiment was carried out in which 61 subjects rated a chord of the seventh with fifth omitted (D F C), for (*a*) dissonance and consonance, and (*b*) liking and disliking, in eight different musical settings. These settings were arranged to give a variety of different conditions: major or minor key, leap or stepwise handling of the dissonance, emphasis owing to position in the bar and suspension of the dissonance. The passages were played on the dulcitone, a tuning-fork instrument relatively free from overtones, and on the paino, in order to compare the effects of these two instruments. The average ratings for consonance–dissonance and for liking–disliking were intercorrelated separately for the dulcitone and for the piano and factorized, and the frequency distributions for the ratings under the various conditions were compared by the Chi-squared technique.

It was found that the chord seemed as often consonant as dissonant on the piano and on the dulcitone, but it was more often liked than disliked, and much more often liked on the piano than on the dulcitone. The factorial analysis showed that there was a tendency for consistency of dissonance level to correspond to stepwise handling of the chords on the piano, but to handling by leap on the dulcitone. Suspended dissonances were consistently liked on the piano. The main contrasts in the bipolar factors for consonance–dissonance lay between leap without emphasis and step with emphasis on the piano and on the dulcitone. For liking–disliking the contrasts were between stepwise handling without emphasis and suspension of dissonances on the piano, while the importance of emphasis remained, but that of suspensions vanished on the dulcitone.

The analysis of conditions by comparison of frequencies of ratings showed mainly that chords tended to seem less dissonant on the piano in major, but on the dulcitone in minor keys. Dissonances handled in stepwise fashion or suspended were more consonant on the piano, but this effect of suspensions did not hold for the dulcitone. Stepwise progressions in handling the dissonance were more liked on the piano, but leaps possibly on the dulcitone. Emphasized chords were less consonant on the dulcitone than on the piano, but they were more liked on the piano than upon the dulcitone.

The experiment supported the expectation of Helmholtz's theory that an interval as large as a seventh would continue to sound dissonant even upon an instrument relatively lacking in overtones, because beats would occur owing to the combination tones. The results of the analysis of the variations of dissonance level of the chords supported the conclusions of the earlier experiments, that the impression of consonance is enhanced by smooth musical handling. It seemed also that the musical character of the instruments, namely the greater sustaining power, sonority and dynamic possibilities of the piano in comparison with the dulcitone, were important in establishing the dissonance levels of the chords. In general terms, the piano can exploit dissonances in a variety of ways, especially in stepwise progressions with emphasis of the dissonance, while the dulcitone requires leap to give point to a dissonance in contrast with a consonance.

Finally, it seemed to the writer that the musical import of the whole passage was more important in its effects on the impression created by a dissonance than were isolated musical devices such as suspension, emphasis, key or mode of approach taken singly.

V. General Conclusions

The following general conclusions may be drawn from the four experiments on the relation of dissonance and context reported in the two parts of this paper:—

(1) There was a strong tendency for the consonance–dissonance level of the dissonances used in these experiments to vary (*a*) with the musical context and (*b*) with the peculiarities of musical attitude and experience of the individual listener.

(2) In spite of this the chords had a strong tendency to retain their relative dissonance level among themselves, and there was a moderate tendency for liking to go with the impression of consonance and disliking with that of dissonance.

(3) Smooth musical handling of the chords, by stepwise progression and suspension, when coupled with emphasis of the dissonance, led towards the impression of consonance and to liking, and to advantageous handling of the dissonant chords.

(4) The piano was best able to handle dissonances by stepwise progression, but the dulcitone, which uses tuning-forks instead of strings, required the leap approach to compensate for its shortcomings as a musical instrument. Suspensions were ineffective on the dulcitone, of which the timbre has few overtones.

(5) Helmholtz's theory of beats between any of the tones in a given chord, fundamentals, overtones and/or combination tones, would provide the best basis for an explanation of dissonance.

(6) A Gestalt theory of the effect upon the dissonance level of chords owing to their integral membership of whole passages or contexts should be added, together with a theory of the effects of personal differences in musical ability and experience of individual listeners.

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VI

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THE PROBLEM OF SIZE AND DISTANCE[1]

BY

R. B. JOYNSON

(*From the Institute of Experimental Psychology, Oxford*)

I. *Introduction* (pp. 120–127). II. *Experiments* (pp. 127–130). III. *Results* (pp. 130–135). IV. *Discussion and Conclusions* (p. 135). V. *Summary* (p. 135). VI. *References* (p. 136).

I

INTRODUCTION

1. *Three conflicting views concerning "apparent size."* In studying the visual perception of size, we have first to determine the relation between the size of retinal images and the "apparent size" of objects. The linear size of a retinal image varies inversely with the distance from the eye of the corresponding physical object. Does the relative "apparent size" of objects at different distances correspond to the relative size of their retinal images? When the distance of an object changes, what happens to its "apparent size"? In pre-Gestalt days it was usually held that "apparent size" is directly proportional to retinal size, and therefore varies, like retinal size, inversely with distance. But this is frequently denied to-day; nor has any reliable rule emerged to take its place, for the experiments upon which the denial is based have not yielded uniform results and writers on optics still accept the old view. Everyone, indeed, agrees that objects look smaller at a great distance than when close at hand; but this is obvious without experiment, and there agreement ends.

When the distance of an object changes, what happens to its "apparent size"? Three different accounts are current to-day:—

(1) *The "retinal image" theory*

The following passage is typical of the view put forward by modern writers on optics: "The apparent size of any object or image seen by the eye depends upon the size of the retinal image, which in turn depends upon the angle subtended by the object or image at the nodal point of the eye. Objects which subtend the same visual angle will have the same apparent size, although their actual sizes may be very different if they are at different distances from the eye." (Fincham (1945), p. 167.) This account was widely accepted by psychologists in the 19th century, who often expressed it by saying that we experience visual or retinal sensations of size proportional to the size of the retinal images concerned. The Gestalt psychologists give this as an example of what they term the "constancy hypothesis"—the belief that our sensory experiences follow the corresponding properties of local peripheral stimulation; that there is a universal point-to-point relation between the two. (Koffka (1935), p. 96.) If it is true, then plainly we can deduce how an object will appear to vary in size with changing distance by a straightforward application of the rules of perspective.

(2) "Size constancy"

According to the Gestalt psychologists, the constancy hypothesis is false. In the case of size, they assert that the apparent size of an object is constant as its distance changes, at any rate in free binocular vision and up to distances of about 50 feet, in spite of the alterations in the size of the retinal image concerned. (Koffka, 1935.) Holway and Boring's recent experiments give results which support the Gestalt contention, and extend the distance to 120 feet. (Holway and Boring (1942)).[1] This confirmation of the Gestalt view is the more striking in that they apparently expected their experiments to reveal some compromise of the kind obtained by Thouless.

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[1] The writer wishes to express his gratitude to Mr. R. C. Oldfield, under whose supervision this work was carried out.

(3) "*Phenomenal regression*"

According to Thouless, the truth lies somewhere between these two extremes; there is only a *tendency* to constancy of size. "As the distance of an object changes, its phenomenal size changes, whether the object be far or near. It changes, however, less rapidly than does the size of the retinal image. The tendency to constancy is shown by the amount of change being a compromise between the changing size of the peripheral stimulus and the unchanging 'real' size of the object." (Thouless (1931), p. 353.) "Phenomenal size is a compromise between stimulus size and the physical size of the object." (P. 352.) (Thouless uses "phenomenal" and "apparent" as equivalent terms.)

Further important differences between Thouless and the Gestalt school are:—

(*a*) Koffka writes that constancy can be "tremendously affected" if the subject adopts an "analytic" attitude (1935, p. 235), whereas in Thouless's papers attitude appears as a comparatively insignificant factor.

(*b*) The Gestalt school find that "size constancy" applies to everyone in a very similar degree, whereas Thouless finds great individual differences in "phenomenal regression." "Amongst nearly a hundred subjects the index of phenomenal regression for the size experiment ranged from 0·11 to 0·95." (Thouless (1931a), p. 21.) (An index of 0·0 indicates a judgment in accord with the retinal image theory; an index of 1·0 indicates complete constancy.)

2. *Reasons for these disagreements:* (1) *Discrepancies in experimental procedure.* In attempting to understand how such widely differing accounts have arisen, we may begin by observing two discrepancies in experimental procedure:—

(*a*) *Angular separation in the horizontal plane of the compared objects.* The disagreement among the psychologists themselves is considerable, but the broadest divergence is that between the writers on optics on the one hand, and all the psychologists on the other. Köhler gives his readers the impression that the retinal image theory is true only if we train ourselves to adopt the "artificial" analytic attitude of "sophisticated and sterile" introspection, or if we employ a complicated arrangement of reduction screens and tachistoscopes. (Köhler (1930).) But this is something of an exaggeration. In support of their statements, writers on optics refer to what is observed when two objects at different distances are juxtaposed or superposed in the visual field. Experiments in support of the other two theories, on the other hand, have always been performed either with the objects concerned placed in different directions from the eye, or with the objects seen successively, not simultaneously, in the same direction. It may, of course, be said that comparison of juxtaposed objects is necessarily monocular, and therefore irrelevant to the Gestalt conclusions, which are expressly stated as referring to binocular vision. But we shall see that this difference is not so important as might be supposed. Moreover, Koffka warns us to take the "precaution," when we experiment, of placing the objects in different directions, "because if the two objects are too close to each other in the visual field, they will influence each other and so distort the picture of uninfluenced constancy." (1935, p. 91.) The influence of angular separation clearly requires further examination. (Koffka has said that constancy is "a function of the direction in which the objects are removed from us." (1935, p. 94.) But he is referring to Schur's investigation of the moon illusion, where the angular separation is in the vertical, not the horizontal plane.)

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[1] Their data actually indicated slight over-constancy, but they suggest this may be due to a space-error, since the compared objects were separated by 90° in the horizontal plane. These authors use "apparent size" and "perceived size" as equivalent terms.

(*b*) *Altering sizes and altering distances.* The second discrepancy in experimental procedure goes some way towards explaining the disagreement among the psychologists themselves. Assuming that the problem is to be investigated by equating two objects at different distances, the experimenter has this choice: either to use two objects at fixed, but different, distances, and to vary their sizes; or to use two objects of fixed, but different, sizes, and to vary their distances. The Gestalt school and Holway and Boring use the first method; Thouless,[1] the second. But the two methods are by no means equivalent, for if the second method is used, it is from the outset impossible for the subject to make a judgment which would indicate complete constancy of size. Complete constancy is only achieved (in an experiment where the subject is required to make judgments of equality) when the subject says that two objects at different distances look equal in size, *and when they are also in fact physically equal.* In the procedure used by Thouless this situation is eliminated, for however we alter the relative distances of two objects physically unequal in size, they must remain physically unequal: if the subject makes a judgment of equality at all under these circumstances, that judgment will inevitably indicate less than complete constancy. It is true that Thouless was willing to substitute discs of gradually increasing size if a subject said that the near disc, when brought as close to his eyes as was practicable, looked smaller than the far one. But this does not affect the argument. For such a procedure would clearly give the subject the impression that he was not producing the "right" answer, and would encourage him to attempt to perceive an equality as soon as possible.

3. *Reasons for these disagreements:* (2) *The question of attitude.* If, in the Thouless experiments, the objects had been juxtaposed in the visual field, we should not perhaps have been surprised at results which indicated less than complete constancy. But in fact he placed the comparison objects in different directions, and we have seen that both the Gestalt psychologists, and Holway and Boring, find complete constancy when this is done. How, then, was it possible for Thouless's subjects to make judgments of equality at all, when the possibility of complete constancy was virtually eliminated? It seems clear that the answer lies in the fact that constancy is reduced when the subject's attitude is "analytic."

The attitude adopted by the subject is of great importance. The Gestalt psychologists employ what they term the "phenomenological" method: the subject is required to give "as naive and full a description of direct experience as possible." (Koffka (1935), p. 73.) The important word here seems to be "naive." In other words, this is the normal perceptual attitude which we all adopt in everyday life for our practical dealings with the world; it is pre-occupied with what is, psychologically, objective reality, with "things as they really are." It is this attitude, then, which the Gestalt psychologists find gives constancy, and this constancy is not, they say, an inferential judgment, but is directly experienced. It is based upon how things really *look*. It is this attitude, also, which, so far as one can gather,[1] Thouless considers *his* subjects were adopting, when they gave their compromise judgments. The "analytic" attitude, on the other hand, which the Gestalt school find greatly reduces constancy, involves a peculiar twist of the attention which it is difficult to describe adequately. We may say roughly that it is a direction of interest, not to what we normally take to be the "real" qualities of objects, but to what seems to be merely "appearance." This attitude has often been regarded as acquainting us with "true sensations." The Gestalt psychologists consider it unprofitable.

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[1] Except in one experiment with one subject. (Thouless (1931), p. 354.)

When we compare two objects at different distances, we may adopt either the phenomenological or the analytic attitude. Brunswik concludes, from a consideration both of his own and of the Gestalt experiments, that, when a naive perceptual attitude is adopted, there is "approximate size constancy," but that analytic judgments fall "somewhere in the broader range around the middle of the constancy scale." (1944, p. 37.) (There is clearly a radical difference between Thouless's "compromise," where the ratios are scattered from 0·11 to 0·95, and Brunswik's "compromise," where the ratios tend to be "in the 0·90ies[2] for the natural attitude," and which thus involves only a slight imperfection of the constancy mechanism. I shall take a judgment which gives a Thouless ratio of more than 0·9 as indicating "constancy," of less than 0·9 as indicating "compromise.") Holway and Boring's results were obviously not obtained by the analytic method, so that the German and American experiments together provide strong evidence that a normal perceptual attitude gives "constancy." (This is, of course, subject to the following provisos: (1) within 120 feet; (2) with binocular vision; (3) without unusual external conditions such as reduction screens, reduced illumination, etc.; (4) with the objects placed in different directions from the eye.) If this is granted, we must infer that the great majority of results indicating "compromise" are products of the analytic method (again, of course, with the above provisos), an inference which is supported by the conclusions of Brunswik and Koffka. It thus seems reasonable to conclude that in Thouless's experiments, where the possibility of constancy was virtually eliminated, the subjects adopted the analytic attitude. As James (1890, p. 242) remarks: "A man walking towards us does not usually seem to alter his size; but we can, by setting our attention in a peculiar way, make him appear to do so."

This conclusion might perhaps be disputed on the ground that a naive, perceptual attitude might give compromise when we use Thouless's procedure, even if it gives constancy when we use the Gestalt procedure. If this is so, it is difficult to see how a consistent account of the whole matter could ever be given.[3] It might further be said that Thouless's procedure is after all the better, since we wish to determine whether an object alters in "apparent size" with changing distance, and his procedure employs such an object whereas the other does not. The absence of a moving object is certainly a defect of the other method, which Thouless avoids, but the correct interpretation of Thouless's results seems rather to be that under certain circumstances analytic judgments are much more readily made than we might suppose from considering the other experiments. We must, however, postpone these possible objections, and examine more thoroughly what is involved in the two attitudes.

We have, then, (1) writers on optics holding that "apparent size" is proportional to visual angle; (2) psychological experiments indicating (*a*) that in normal perception

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[1] Since Thouless mentions attitude so rarely, we can judge only from the general tenor of his articles and from one or two practical conclusions he draws, both in the articles listed and elsewhere.

[2] Brunswik is here using, like Thouless, the logarithmic formula.

[3] Later experiments are also relevant here.

"apparent size" is constant with changing distance, (*b*) that an analytic attitude gives a compromise between constancy and a change proportional to visual angle.

4. *Ambiguity of the term "apparent size."* Stout, choosing a situation similar to that chosen by writers on optics, states: "When I look through a window-pane at the opposite side of the street, then, apart from any reflective judgment, the house opposite looks as big as a house really is, whereas the space enclosed within the frame of the pane looks very much smaller. Yet the sensible appearance is the same for both. The same holds for all cases in which we look through a relatively narrow aperture in such a way that the boundary of our peep-hole is visible as well as what we see through it." (1938, p. 679.)

Suppose that the frame of the pane exactly bounds the house. Then there is a sense in which the house and the pane look (appear) the same size, and a sense in which the house looks (appears) much bigger than the pane. "Apparent size," and "look the same size," are thus ambiguous; they might be, and have been, used in either sense. Stout distinguishes between the two by calling the first a "sensible" and the second a "perceptual" appearance of size. It is clear that in attending to the perceptual appearance we observe phenomenologically; to the sensible appearance, analytically.

The question whether these two appearances are, or can be, evolved simultaneously, is of great importance. The Gestalt psychologists seem definitely of the opinion that they are not, and cannot be. "The experiences given by introspection depend upon the attitude of introspecting,[1] and cannot be shown to exist without it," writes Köhler (1930, p. 66.) But this question is for the moment irrelevant. We are concerned rather with the implication that, whether we adopt the phenomenological or the analytic attitude, whether we attend to the perceptual or the sensible appearance, we are dealing with the same *kind* of "apparent size"; with the implication that, though the relative "apparent sizes" are different in the two cases, the "apparent size" is throughout *of the same nature*. This implication seems to be false. We need an accurate description of the magnitude involved in each case, preferably in terms which do not commit us to general theoretical distinctions of the kind implied in the words "sensible" and "perceptual."

(*a*) *Apparent angular size.* Take first the sense in which both the house and the pane appear the same size. They do not appear the same size because the pane appears as large as a house really is, nor because the house appears as small as a pane really is. There may be some tendency for one of these two things to happen; but the appearance of equality is not dependent on it. As Stout remarks: "When we thus succeed in fixing attention not, as in ordinary vision, on things seen, but on their sensible appearances as such, this unusual direction of interest frequently, though not necessarily, makes a difference to perceptual appearance." (*Ibid.*)

The sensible appearance of equality is attended to most easily if we endeavour to forget how large the house and the pane "really" are. What sort of size is it which both then appear to possess, and in the same degree? It is, I think, a matter of difference of direction from a point. The respective extremities of the house and the pane appear to possess the same difference of direction from the observer's point of view. The top of the house and the top of the pane appear in the same direction, i.e., in the same line of sight. Similarly the bottom of the house and the bottom of the pane. The difference between the direction in which the top of the house appears and that in which the bottom of the house appears, is the same as the difference between the direction in which the top of the pane appears and that in which the bottom of the pane appears. This difference of direction is a relation of magnitude, since there may be greater or smaller differences of direction. An angle may be defined as the difference between two directions from a point. I shall therefore call the apparent difference of direction, from the observer's point of view, of the extremities of an object, the "apparent angular size" of that object. The house and the pane, when we attend to the sensible appearances as such, appear to possess the same angular size. We might otherwise express this by saying that they then appear to fill the same proportion of the visual field: they appear equal in size with relation to the visual field as a whole.

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[1] I.e., the analytic attitude.

We leave open the question of the relation between apparent angular size and retinal images or visual angle. It seems to me that we should reach the above conclusion if we had never heard of the science of optics. (Cf. Köhler (1930), p. 60.) Stout concludes the passage quoted above by remarking: "In asserting this I am not relying on physiological considerations. I should say the same if I did not know at all even that I had a retina." (*Ibid.*)

(*b*) *Apparent absolute size.* We are faced with a very much more complex matter, in its theoretical implications, when we turn to the sense in which the house and the pane appear to be of different sizes; in which, roughly speaking, the house appears as large as a house really is, and the pane as large as a pane really is. Here attention is directed to the size we suppose objects to retain unchanged however we or they may move about. When we glance at the objects in a room, each seems to be "its own size." This I term "apparent absolute size." It could perhaps also be called "behavioural" size, to adopt a Gestalt expression. We live, not in Lilliput or Brobdingnag, but in a world of objects which usually retain, with relation to ourselves, their "proper" size. It seems to be more naturally described as an immediate visual impression than as an inferential judgment. There is no relation of size between the apparent absolute, and the apparent angular, magnitudes of an object. The one is not greater than, equal to, or smaller than, the other. The mere proportion of the visual field an object appears to fill, *as such*, tells us nothing whatever about its "real" size. The questions whether we are, or can be, simultaneously aware of the two, and of how they are related, remain to be considered.

The following terms will be used:—

(1) *Physical size:* relative linear extension in the external world; measurable in feet and inches.

(2) *Apparent absolute size:* the impression of "real" size which we obtain when we look at an object in normal, practical, perception. (Phenomenological attitude; attention directed to "bodily size," as Brunswik terms it.)

(3) *Visual angle:* the angle subtended to the eye by a physical object, measurable in degrees.

(4) *Apparent angular size:* the proportion of the visual field an object appears to fill. (Analytic attitude; attention directed to "projective size," as Brunswik terms it.)

It seemed probable that one criterion for distinguishing between "normal perceptual" and "analytic" judgments was provided by the difference between constancy and compromise. We now have a second criterion: is the subject concerning himself with apparent absolute or apparent angular size? Does he, or does he not, think he is dealing with "real" size?

Previous psychological experiments on the whole indicate, then, that apparent absolute size is approximately constant with changing distance. They also seem to imply that apparent angular size, when we attend to it, changes with distance, but less rapidly than visual angle. Stout's remarks, and the observations of writers on optics, suggest that this needs further examination, and that the Gestalt treatment of the subject is incomplete.

5. *Argument*. As an object approaches the eye, its retinal image fills an increasing proportion of the retina. Does the object appear to fill an increasing proportion of the visual field? If we align our finger, which appears to fill a constant proportion of the field, with the object as it approaches, we notice a striking difference in the proportion of the field the object appears to fill at various distances. This observation, taken by itself, would naturally suggest that the proportion of the visual field which an object appears to fill, may correspond closely to the proportion of the retina occupied by the image. Yet, as the object approaches, it appears constant in size to naive perception. At least, we certainly do not receive the impression that the object itself is actually *expanding*: there is approximate constancy of apparent absolute size. Can the conclusion we drew from monocular observation under unusual circumstances, possibly be true in naive binocular vision?

It is usually said that, as an object approaches, its retinal image increases in size; as, of course, it does, with relation to the retina. But we think of the image as increasing *absolutely*, because we tacitly suppose the retina, the head and the whole physical world to be absolutely constant. If instead we imagine, as Swift did, the whole physical world varying in absolute size, we need no longer think of the image as increasing absolutely. If we imagine that, as the size of the image *with relation to the retina* increases, the retina and the whole physical world diminish correspondingly in absolute size, then we can imagine the image absolutely constant. Indeed, we can imagine the retina decreasing absolutely with such rapidity that the image also (though increasing with relation to the retina) decreases absolutely. Thus the *ratio* between image and retina is one thing, our conception of their changing or constant *absolute* size another. Whether we think of the retina as absolutely constant and the image as absolutely increasing, or the image as absolutely constant and the retina as absolutely diminishing, we think of the ratio between the two as altering in the same way.

Returning to the visual field, we see that we can retain both "size constancy," and the close correspondence between the proportion of the retina filled by an image and the proportion of the field filled by a seen object, if, as an object approaches, the absolute size of the field diminishes. Indeed, if the absolute size of the field varies in proportion to the distance of the fixation point, an object will not appear constant in absolute size *unless* its apparent angular size *does* vary inversely with distance.

James has referred to the shrinkage and expansion of the absolute space-value of the total optical sensation, or total field of view (1890, p. 269). "If we plunge our head into a wash-basin, the felt nearness of the bottom makes us feel the lateral expanse to be small. If, on the contrary, we are on a mountain-top, the distance of the horizon carries with it in our judgment a proportionate height and length in the mountain-chains that bound it to our view." (P. 213.) Whether the absolute value of the "lateral expanse" is derived from the perceived distance as James seems to suggest, is at the moment, irrelevant. The significant fact is that when we put our head in a wash-basin we are in a *small* visible world, and when we look from a mountain-top, we are in a *large* visible world. Yet both wash-basin and mountain equally fill the whole visual field: the *angular* size of the field is constant, its *absolute* value varies.

The absolute value of the field increases roughly in proportion to distance, at any rate up to distances of about 120 feet. As a man recedes, he fills an ever-decreasing proportion of the field, but the absolute value of the whole field increases as his distance increases, and he therefore appears constant in absolute size. The retinal magnitudes determine certain relative properties within the field (the proportion of the field various objects appear to fill; their apparent angular sizes), but the field as a whole alters in absolute size approximately according to the distance of the fixation point, and so provides a changing "framework" for those relative properties. Thus the term "size constancy" is an inadequate description of the total phenomena with which we are concerned. "Size constancy" is dependent upon two *in*constant factors: the absolute size inconstancy of the whole visual field, and the varying apparent angular size of an object as its distance changes.

The use of "size constancy" to mean "seeing objects at different distances in their relative physical size" obscures the problem. The first does not explain the second. A far object might be correctly perceived as twice as large as a near object, but this is not explained by saying that neither would appear to alter if its distance were changed. The mere fact that an object appears constant in absolute size with changing distance does not explain why it appears as large as it does. *Objects appear not only constant, but of different sizes.* This is only explicable when we take into account the proportion of the field they appear to fill.

The varying "apparent size" of the projected after-image provides a further illustration. In naive perception, the after-sensation from the same retinal area appears to increase in absolute size approximately according to the projection distance (Emmert's Law). But by projecting one half of an image upon a sheet of paper held, say, 2 feet from the eye, and the other half simultaneously upon the opposite wall, we can observe the constant proportion of the field filled by the image. Here the apparent absolute size of the image increases in proportion to distance, because its apparent angular size remains constant while the absolute value of the whole field increases; whereas with the ordinary receding object, decreasing angular size counter-balances the increase in the absolute value of the whole field, and gives absolute constancy.

The reader will notice certain analogies between this treatment of "size constancy" and Koffka's theory of localisation and colour constancy. (1935, Chapter VI.) It does not seem, however, to suggest an interpretation of "the constancies" entirely in accord with that of the Gestalt psychologists.

II

EXPERIMENTS

It is clear from the preceding discussion that two factors—the subject's mode of observation and the angular separation of the comparison objects—need experimental investigation. Previous experiments seem to indicate that apparent angular size changes with distance, but less rapidly than the corresponding retinal images change. The following experiments have a bearing upon this.

Apparatus: The apparatus consisted of the following parts:—

(1) Two circular cardboard discs: S, the standard, diameter 8·74 cms., subtending an angle of 2½° at 200 cms.; V, the variable, diameter 6·55 cms., subtending an angle of 2½° at 150 cms. Each disc was attached to a rod, inserted in a metal stand.

(2) A steel track upon which the stand carrying disc V could be moved smoothly backwards and forwards, in the subject's line of sight, by a simple belt system operated by the experimenter. The track was 250 cms. in length and marked with a millimetre scale.

(3) A device for ensuring that the subject's head and eyes were placed in the desired position. The subject was seated at a large table, upon which the track and discs were placed. His chin rested upon a support, the height of which was adjusted until his eyes were in the same horizontal plane as the two discs. Attached to the support were various

adjustable devices whereby the subject's head could be firmly placed at the correct distance from the standard, and in line with the steel track. About 3 inches in front of, and below, the subject's eyes, a cardboard screen was placed, so that the track, and most of the surface of the table, were invisible.

Procedure: The angle SEV between the standard (S), the subject's eyes (E), and the variable (V), was 20° at the beginning of each experiment. In monocular vision the position E was the relevant eye; in binocular vision it was the point midway between the two eyes. The distance SE from the standard to the subject's eyes was always 200 cms. The distance EV from the eyes to disc V was varied. When EV equals 150 cms. both discs cast retinal images of the same size, and a judgment of equality is consistent with the "retinal image" theory; if such a judgment is made when the distance EV is less than 150 cms., the retinal image of disc V will be larger than that of disc S and some approximation to size constancy is shown. *Complete* constancy, as we have noticed, is impossible with this procedure. As the experiment proceeded, the angle SEV was systematically varied, but whatever its value the subject's head was so placed that his line of sight bisected the angle SEV when his eyes were in the primary position. Since his head was firmly fixed, the subject had to move his eyes in order to fixate the two discs. In these experiments the standard was always to the left of the variable. The illumination was normal and well diffused.

Each subject, when his head was correctly placed in the support, was first shown both discs at a distance of 200 cms., angular separation 20°. He was asked which looked larger. The answer was invariably "S." V was then brought to a distance of 30 cms. and the question repeated. The answer was *usually* "V" (*see* below). The experimenter then said there must presumably be some distance between 200 and 30 cms. at which V and S would look the same size. The subject agreed, and was told that the object of the experiment was to discover what this distance was. Half-a-dozen preliminary runs were given, after which the experiment proper began.

Of the 12 subjects (aged 16 to 35) used in this series, all except three said that V at 30 cms. looked bigger than S at 200 cms. These three seemed at first surprised when it was suggested that V might appear to increase in size as its distance diminished. One looked at the disc suspiciously and said there did not seem to be any mechanism there for altering its size. They were then asked to imagine that the two discs were at the same distance; to attend to the amount of the visual field they appeared to fill; to consider the relative amounts of the background they appeared to cover, etc.; in other words, they were instructed, by whatever method seemed to suit each best, to adopt the analytic method. All three then agreed (one with the exclamation "Ah! I see what you mean") that V did, in that sense, look larger, and in each case the disc had then to be moved considerably further back before apparent equality was reached (*cf.* Graphs I and II, Subjects IV, VI and VIII). *None* of the subjects was under the impression that, in making these judgments, he was referring to the "real" size of the discs. Since the judgments also give compromise, they are analytic by both the criteria mentioned above. The general character of the results seems hardly to admit any other interpretation. Later experiments confirm this conclusion.

EXPERIMENT I (MONOCULAR)

The discs were white, and each was seen against a red cardboard background, 4 feet by 3 feet, placed 250 cms. from the subject. The scheme of the experiment was as follows:—

Angle SEV:	2½°	5°	10°	20°	40°	60°	90°
"First round" ..	$7\left\{\begin{matrix}R\\A\end{matrix}\right.$	$5\left\{\begin{matrix}R\\A\end{matrix}\right.$	$3\left\{\begin{matrix}R\\A\end{matrix}\right.$	$1\left\{\begin{matrix}R\\A\end{matrix}\right.$	$2\left\{\begin{matrix}A\\R\end{matrix}\right.$	$4\left\{\begin{matrix}A\\R\end{matrix}\right.$	$6\left\{\begin{matrix}A\\R\end{matrix}\right.$
"Second Round" ..	$8\left\{\begin{matrix}A\\R\end{matrix}\right.$	$10\left\{\begin{matrix}A\\R\end{matrix}\right.$	$12\left\{\begin{matrix}A\\R\end{matrix}\right.$	$14\left\{\begin{matrix}A\\R\end{matrix}\right.$	$13\left\{\begin{matrix}R\\A\end{matrix}\right.$	$11\left\{\begin{matrix}R\\A\end{matrix}\right.$	$9\left\{\begin{matrix}R\\A\end{matrix}\right.$

That is to say, the angular difference of direction of the two discs from the subject was varied in the order indicated by the numbers. And at each position four judgments were made: two (R) with disc V *receding* slowly from 30 cms. till the subject reported apparent equality; the other two (A) with disc V *approaching* slowly from 200 cms.

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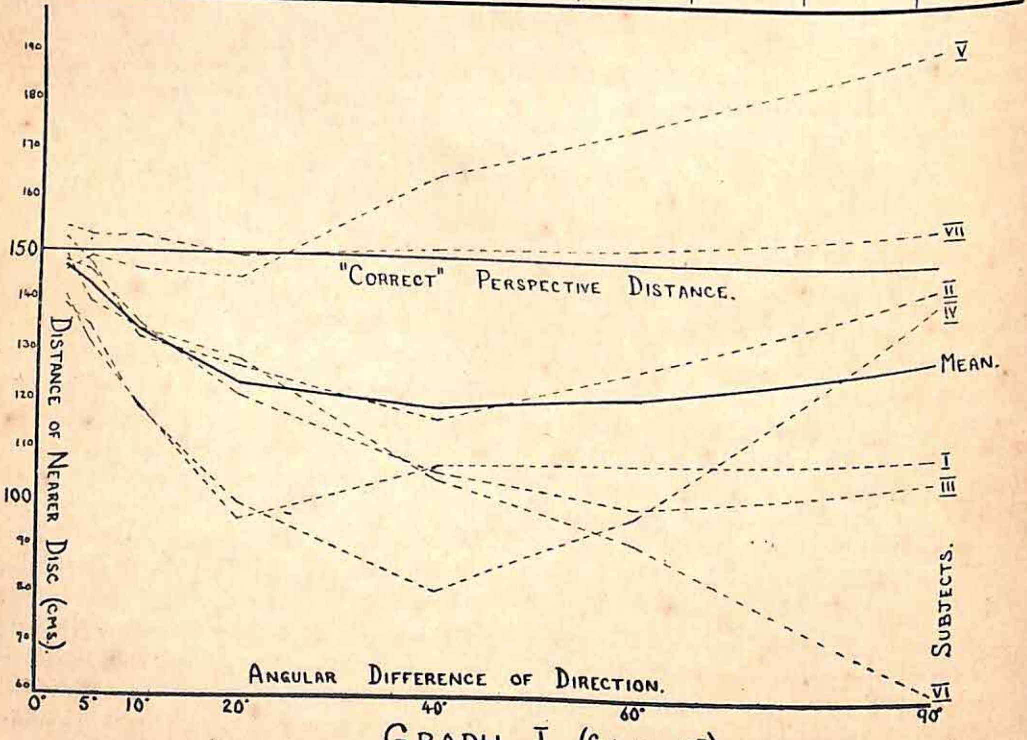
TABLE I

Experiment I

Subject	*Angular Separation*						
	2½°	5°	10°	20°	40°	60°	90°
I	141·4 14·9	132·2 5·7	119·5 29·3	96·2 32·3	107·8 27·3	(108·5) (19·2)	110·2 11·1
II	152·5 3·3	147·9 8·5	133·3 20·5	127·8 11·9	117·2 18·0..	(128·0) (15·2)	145·0 12·4
III	148·1 11·0	146·1 3·9	136·0 22·8	121·9 40·3	106·6 63·6	99·7 28·3	105·7 52·1
IV	139·7 9·3	135·5 8·3	119·2 25·5	99·6 42·3	81·9 45·3	97·8 81·5	141·8 59·6
V	146·2 4·3	149·1 8·2	146·2 12·2	145·2 14·1	166·6 26·9	177·9 16·8	194·2 22·3
VI	149·1 4·7	140·1 11·1	134·9 14·3	129·1 14·1	104·8 43·1	92·0 59·6	61·3 28·1
VII	154·4 5·6	153·3 5·9	153·0 9·0	149·6 3·0	151·6 9·6	152·7 4·1	157·0 11·0
Mean distance ..	147·3	143·6	134·6	124·2	119·5	122·4	130·7
Mean range ..	7·5	7·4	19·1	22·6	33·4	32·1	28·1



GRAPH I. (Experiment I)

The above order was adopted in order to spread any practice or fatigue effect as far as possible evenly between the various angular values. Each subject performed the whole experiment at a single sitting, which usually took about three-quarters of an hour.

The results are summarised in Table I and Graph I. In Table I the upper figure in each square gives the mean distance (calculated from four judgments) of disc V at which the subject reported that it looked equal to disc S, for that particular value of the angle SEV. The lower figure gives the range of the four judgments. Subjects I and II made no judgments at 60°, and the figures given in brackets (which were used in calculating the means, given at the bottom of the table, for all subjects) were calculated by interpolation.

EXPERIMENT II (BINOCULAR)

The same discs and background were used as in Experiment I. The procedure also was identical, except that (1) *binocular* vision was used, (2) the least value of angle SEV was 5° (there would have been interference from double images at 2½° with binocular vision), and (3) the greatest value of angle SEV was 80° (90° would, for obvious reasons, have necessitated movements of the head with binocular vision). One of the five subjects was new; the other four had already taken part in Experiment I. The results are summarised in Table II and Graph II.

EXPERIMENT III (BINOCULAR)

Red discs were used against a larger *white* background (6 feet × 4 feet). (Only *white* cardboard of the desired size was obtainable.) Otherwise the set-up and procedure were identical with Experiment II. One subject still lasted from Experiment I; the rest were new. The results are summarised in Table III and Graph III.

Graph IV compares the means for each experiment. In addition, two dotted lines are plotted. The upper one, XX, represents the perspective extreme, being the means of Subjects V and VII in Experiment I. The lower one, ZZ, represents the other extreme, being the means of Subject I in Experiment II, and Subject IX in Experiment III. The Thouless ratios are given on the right of the graph for various distances of Disc V.

III

RESULTS

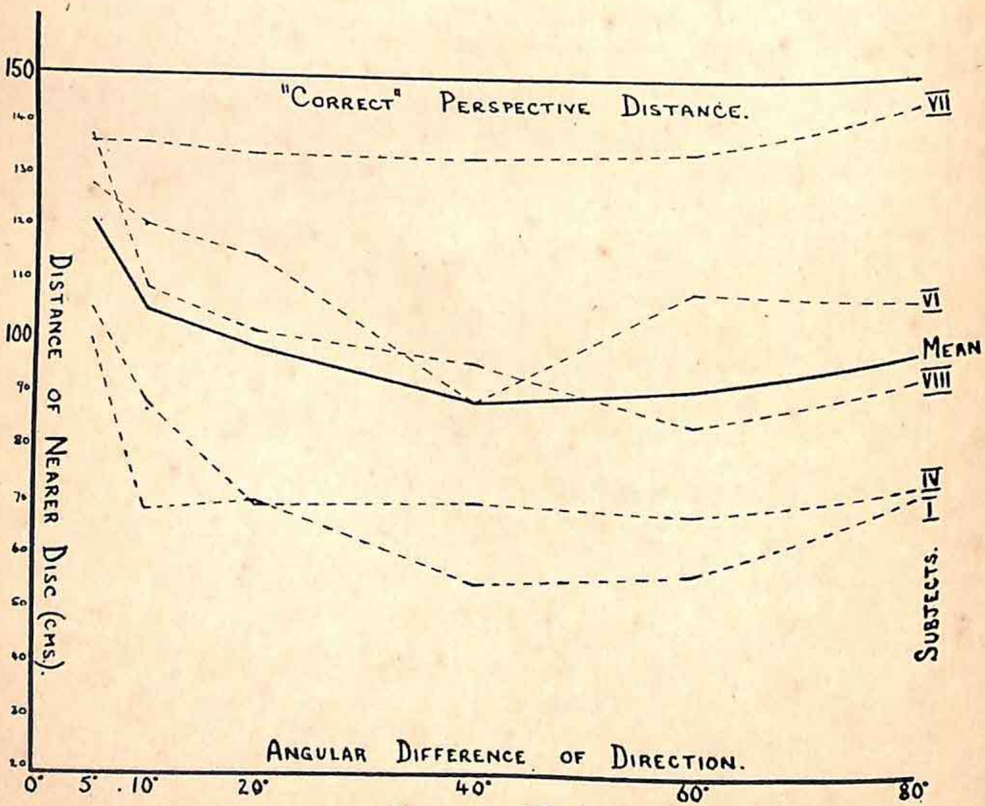
(1) The chief result is the strong tendency for the judgments in all three experiments, as the angle of separation is decreased from about 40°, to approach the distance (150 cms.) at which the discs subtend equal visual angles. In Graph IV a natural continuation to 0° of the mean graphs for each experiment would bring them all very close to 150 cms., or even above that distance. (The weaker tendency for the graphs to rise again beyond about 40° is puzzling. Possibly it is connected with the fact that, as the angle of separation is increased, the subject's eyes deviate increasingly from the primary position in fixating the two discs. It will be remembered that, with the eyes in the primary position, the subject's line of sight bisected the angle between the discs, and that the head was not moved.)

The statistical significance of this trend was assessed by comparing, for each experiment separately, the difference between the means at 5° and 40° (for all subjects combined) with the standard error of the difference. In each experiment the probability of the difference occurring by chance was less than 0·02. The general consistency of the results is satisfactory: with the exception of three subjects (V and VII in Experiment I; VII in Experiment II; and XI in Experiment III), the *least* distance

TABLE II

EXPERIMENT II

Subject	*Angular Separation*					
	5°	10°	20°	40°	60°	80°
I	99·8 14·8	69·2 14·7	70·9 13·2	55·4 17·0	58·2 22·6	72·6 33·8
IV	105·4 11·9	88·6 19·1	70·0 6·8	70·6 8·7	69·5 7·1	74·1 12·9
VI	128·6 8·7	121·1 14·8	115·4 23·4	89·1 35·5	110·2 20·6	108·2 5·7
VII	136·9 5·2	136·8 11·0	135·1 7·5	135·0 10·2	136·6 1·1	144·9 2·3
VIII	138·1 4·3	109·2 12·6	101·3 22·0	96·4 11·0	86·0 5·1	93·8 9·1
Mean distance ..	121·7	105·0	98·5	89·3	92·3	98·7
Mean range ..	9·0	14·5	14·7	16·5	11·3	12·8

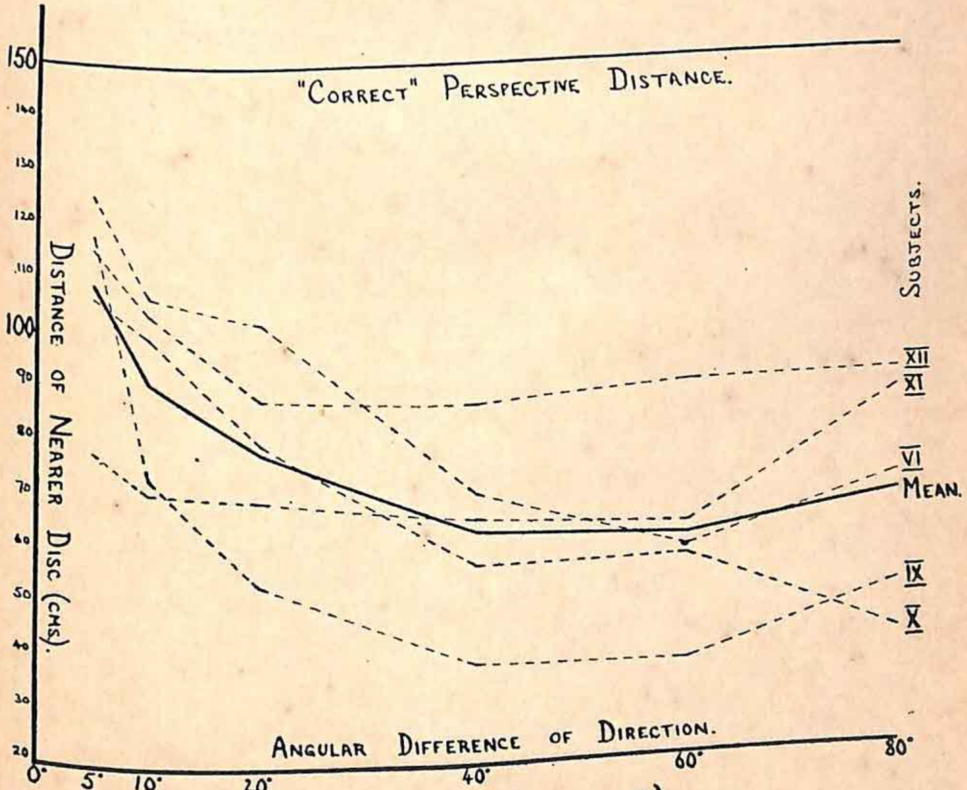


GRAPH II (Experiment II).

TABLE III

EXPERIMENT III

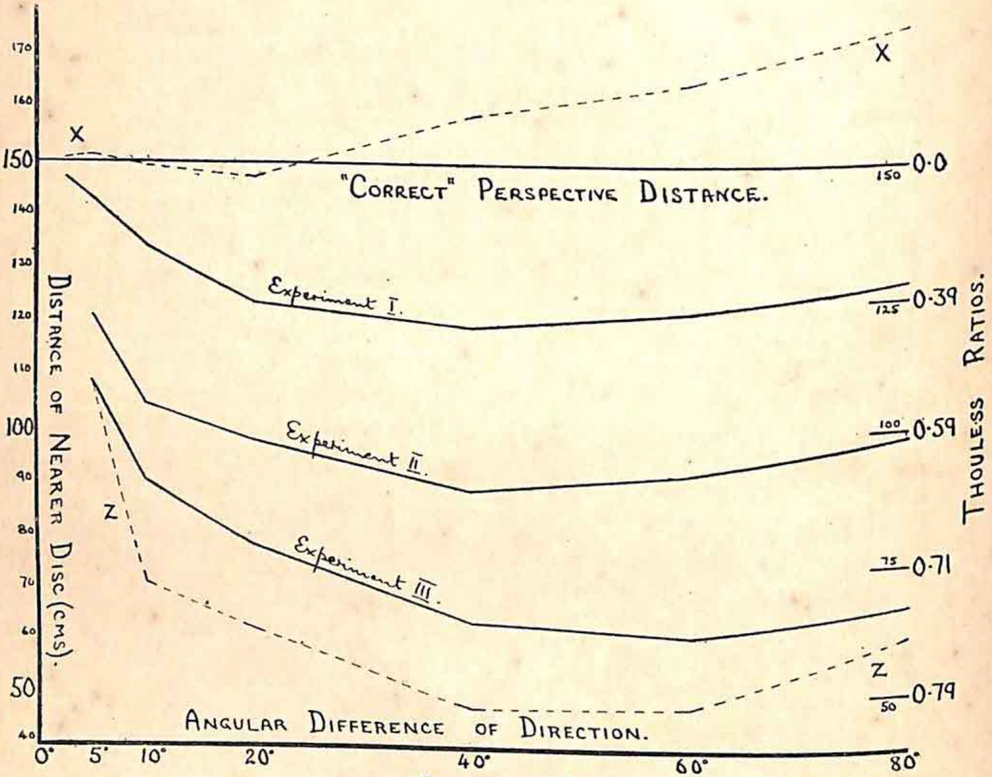
Subject	*Angular Separation*					
	5°	10°	20°	40°	60°	80°
VI	125·9 10·0	106·9 21·2	102·1 29·3	70·9 20·8	58·9 16·8	70·2 19·9
IX	118·3 14·6	74·0 19·8	54·3 30·2	38·5 23·5	37·5 10·3	50·3 16·1
X	106·2 16·4	99·3 6·3	80·5 10·9	57·6 26·3	57·7 21·3	41·6 7·1
XI	78·6 16·5	71·3 8·1	70·0 14·5	66·0 14·2	63·5 15·7	85·9 24·7
XII	115·8 28·0	103·5 12·7	88·1 10·7	86·1 2·3	89·0 13·9	89·1 21·4
Mean distance ..	109·0	91·0	79·0	63·8	61·3	67·4
Mean range ..	17·1	13·6	19·1	17·4	15·6	17·8



GRAPH III (Experiment III).

of disc V at 5° is for every individual closer to 150 cms. than the *greatest* distance at 40° (i.e., these judgments do not overlap). The average difference between the least distance at 5° and the greatest at 40° is, for all subjects (excluding the above three), 23·9 cms.

It will be noticed that, with increasing average constancy, the graphs tend to descend more rapidly between 5° and 40°. The difference between the mean at 5° and the mean at 40° is, for Experiment I, 24·1 cms.; for Experiment II, 32·4 cms.; for Experiment III, 45·2 cms.



GRAPH IV.

(2) The range of the four judgments used to calculate each individual's mean for each value of SEV may be taken as a rough measure of the variability or stability of the subject's judgments for that particular situation. It will be noticed in the first place that these ranges are hardly indicative in many cases of great assurance on the part of the subject concerning the distance at which the discs looked equal. Often, indeed, a subject's hesitation and uncertainty were most marked, *except where, in monocular vision, the discs were close together*. A comparison of the often fluctuating and tentative character of these judgments, with the relative smoothness and precision of the judgments given in Holway and Boring's experiments (as indicated by the mean variations they record) suggests the difference between the practised estimate of normal perception and the "unnatural" product of the analytic attitude. In general, an onlooker could hardly have failed to conclude that the subjects in these experiments were not accustomed to making judgments of this kind in the ordinary course of affairs.

In the second place, Table I (bottom two rows) suggests that the mean range may vary with the degree of constancy. But before we can conclude that this is so, we must eliminate any influence which may be due merely to the varying value of SEV. There are two separate questions: (i) Does the stability of the judgments vary as angle SEV varies (eliminating any effect due to increasing constancy)? (ii) Does the stability vary as the degree of constancy varies (eliminating any effect due to the variation of SEV)? The first question does not concern us here: Piaget and Lambercier (1943) have shown that the scatter of similar judgments of size (equidistant comparison objects) increases as SEV increases, and no doubt the effect is present here also. But for our purposes the second question is more important.

Any effect due merely to the variation of SEV may be eliminated by calculating each individual's mean range for all values of SEV, and comparing it with his mean distance of disc V for all values of SEV. The rank order of the subjects for "constancy" can then be correlated with their rank order for "stability." Using Spearman's formula we obtain a positive correlation between "low constancy" and "high stability." (For Experiment I, $r_e = 0{\cdot}73$; for Experiments II and III combined, $r_e = 0{\cdot}55$.) Moreover, it appears reasonable to suppose that the effect is really considerably stronger than the above figures indicate, for, the less the distance of disc V, the greater the absolute change in visual angle for a given movement of the disc. Thus a range of 10 cms. about a mean of 90 cms. represents a considerably greater range of retinal sizes, than a range of 10 cms. about a mean of 130 cms. If we measured the ranges in terms of visual angle instead of difference of distance, the stability of the judgments of subjects with "low constancy" would appear comparatively increased. It seems probable that a subject's judgments are on the whole more stable the closer they lie to "correct" perspective.

(3) As angle SEV decreases, individual differences decline markedly in monocular vision, as shown by the following figures, which give the difference between the highest and the lowest individual means for each angle of separation:—

	2½°	5°	10°	20°	40°	60°	90°
Experiment I ..	14·7	21·1	34·8	53·4	84·7	85·9	132·9

The corresponding figures for binocular vision are:—

	5°	10°	20°	40°	60°	80°
Experiment II ..	38·3	67·6	65·1	79·6	78·4	72·3
Experiment III ..	47·3	35·6	47·8	47·6	51·5	47·5

If the somewhat anomalous mean provided by Subject XI at 5° (Experiment III) is discounted, the figure 47·3 is reduced to 19·7 cms., and the indication would then be that in binocular vision, individual differences remain fairly constant until the angle of separation becomes small, when they show a tendency to decline.

(4) Minor points: (*a*) There is some suggestion of a tendency for judgments to shift in the course of the experiments towards the "correct" perspective distance. Seven subjects show this shift, as against two the reverse. (These shifts are slight. Three subjects, who took part in more than one experiment, show both tendencies. The shift was calculated by comparing average "first round" with average "second round" judgments.)

(*b*) As would be expected, constancy is greater in binocular than in monocular vision.

(*c*) The greater constancy in Experiment III than in Experiment II seems most plausibly ascribed to the larger background used in Experiment III. With the larger background, the alteration in the apparent angular size of disc V would clearly be less easily noticeable.

It must be remembered that all these conclusions refer here to analytic judgments only.

IV

Discussion and Conclusions

Helmholtz writes: "I can tell with much certainty whether my index-finger is thicker or thinner than a gas-pipe on the opposite side of the room, although there is an enormous difference in the apparent sizes of the two objects. On the other hand, I am not at all sure whether my finger, held at a certain distance in front of my eye, has the same apparent size as a book on the other side of the room, or is as big as the moon, say; supposing that the two objects to be compared are not brought near together in the field. Rather in my own case, there is a very strong tendency to consider the angle subtended by my finger as being much smaller than that of the book or moon, unless I can bring the two quite near together, or make them cover each other in the field of view" (1924, p. 203).

It is clear that "constancy" is given by judgments of the kind referred to by Helmholtz in the first few words of this passage, and that by "apparent size" he means what we have been calling apparent angular size. The reliability of the experiments described in this paper is increased when they are taken in conjunction with further experiments to be reported later, but the following conclusions seem justified.

(1) *Monocular vision.* It is only when two objects at different distances are *juxtaposed* in the field of vision that our estimate of their relative apparent angular size is likely to correspond at all closely to their relative visual angles. As the angle of separation is increased there is a tendency to a comparative over-estimation of the far object. This is accompanied by a decline in the stability of the judgments (*cf.* Table I; mean ranges) and in the assurance of the subject, who feels that his task is easier when the objects are aligned. Individual differences also become much more marked.

(2) *Binocular vision.* The comparative over-estimation of the far object is not only greater than in monocular vision, it also seems to increase more rapidly as the angle of separation increases.

It seems clear that the judgments made in these binocular experiments, when the angular separation of the two discs is about 20°–60°, are strictly comparable to the judgments made in Thouless's experiments with the same procedure. We have the same compromise and the same individual differences. But the manner in which the judgments vary according to the angular separation of the discs, the correlation between low constancy and high stability, and the observations of Stout and writers on optics, when taken together, strongly suggest that we do not obtain any reliable indication of the variation of apparent angular size with distance.

V

Summary

When the distance of an object changes, what happens to its "apparent size"? It is suggested (*a*) that the disagreement on this question has been caused chiefly by discrepancies in experimental procedure and by the possibility of different modes of observation; (*b*) that the term "apparent size" fails to distinguish between apparent absolute and apparent angular size; (*c*) that it seems doubtful whether previous psychological experiments provide reliable indications of the way in which apparent angular size varies with distance. A preliminary outline of a possible solution has been given, and some experiments described in which the variation of the tendency to constancy with angular separation of the compared objects is investigated.

IV

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THE DISORDER OF SKILL RESPONSIBLE FOR ACCIDENTS

BY

D. RUSSELL DAVIS

(*From the Medical Research Council Unit in the Psychological Laboratory, University of Cambridge*)

I. *Introduction* (pp. 137, 138). II. *Experiment* (pp. 138, 139). III. *Discussion* (pp. 139–142). IV. *Summary* (p. 142).

I

INTRODUCTION

OF what nature is the disorder of function which is revealed in "accident-proneness?" The present paper discusses the answer to this question with particular reference to underground workers in coal mines. However, the rough theory which is suggested may be applied to accident-proneness in other occupations; indeed, it originated from an investigation into the causes of the errors by pilots which are responsible for aircraft accidents (Davis, 1948a).

As a part of this investigation a large number of pilots who had carried out a test in the Cambridge Cockpit were followed up, and it was found that an undue proportion of those who in the test had shown the so-called "inert" reaction sustained fatal accidents or were suspended from training. The main features of the "inert" reaction were: errors (in the form of deviations of instrument-needles from their prescribed readings) of large size and of long duration; feelings of failing concentration and discouragement. The reaction was considered as a development from another type of abnormal reaction to the test conditions, called the "overactive" reaction. The latter reaction was characterised by control movements of excessive extent and force and was attributed to increase of *anticipatory tension* in a situation the outcome of which was in doubt. Since increase in extent and force of control movements impaired performance, the psychological dangers inherent in the situation became more imminent, and anticipatory tension increased progressively. But the corresponding intensification of the "overactive" reaction tended to be cut short, for reasons which are not at all clear; it is supposed that the activity by which anticipatory tension was expressed in the "overactive" reaction was gradually reduced by inhibition, since it was not reinforced by removing the dangers of the situation. The result was that, so far as the recorded behaviour was concerned, the performers appeared to become unresponsive to the test situation and to withdraw from it.

The explanation of the "overactive" reaction has been confirmed experimentally (Davis, 1948b)—for this purpose a new test, the "Skilled Response" test, was devised—but the hypothesis advanced for the "inert" reaction remains unproved and cannot so far be regarded as satisfactory. The nature of this reaction is a matter of psychopathological interest, and a similar problem is raised by the results of the experiment to be described.

In addition to its part in the experimental confirmation of the explanation of the "overactive" reaction, the "Skilled Response" test was regarded as a convenient means of recording in a more or less simplified, miniature situation the disturbance of activity responsible for accidents at work. That the behaviour observed in the test does so reflect the essential disturbance has now been proved. The opportunity to secure the necessary records has not arisen in the case of pilots, and in the experiment to be described the test was applied to coalminers. The necessary proof having been obtained, it is possible to return to the consideration of the nature of the disturbance.

II

EXPERIMENT

The following experiment formed part of an investigation developed by Mr. J. W. Whitfield into a number of problems concerning accidents in coal mines. Two important features of it were the method of selection of subjects for testing and the novel design, both due to Mr. Whitfield. He obtained records for a large number of underground workers in coal mines over a period of about three years to show *inter alia* not only the "compensable" accidents sustained by each man, but also the seam in which he worked, the type of work and the number of shifts. Then he calculated for each man a figure representing his exposure to risk; this was the number of accidents he would have sustained, had the accidents in a particular seam and affecting a particular occupation been distributed uniformly over the workers according to the number of shifts each man worked. Relatively small groups were selected from the large number of men for whom data were available. One group comprised men who had sustained an unduly large number of accidents (more than four); a second, men who had sustained one accident—the median number for the whole of the large group—and a third, men who had sustained no accidents at all in spite of a similar exposure to risk. The members of the groups were so selected that the "exposure" of the "accident" individuals was rather less than one accident, that of the "middle" individuals about one and that of the "safe" individuals rather more than one. Triads were then formed, comprising one member of each group, with all three members of a triad being of the same occupation and of approximately the same age.

Thirty-two triads were examined medically, at interview and by application of several psychological tests, including the "Skilled Response" test, and the performance of each "accident" individual was compared with that of the members of his triad. None of the examiners knew to which of the accident-history groups the men being examined belonged. The results concerning the "Skilled Response" test are summarised below.

Results

(1) The performance in the "Skilled Response" test, which has been described in a previous publication in this journal (Davis, 1948b), was scored in several ways, various measurements being made of the graphic records; thus were obtained scores of the amplitude (extent) of the responses, the effect upon amplitude of ambiguity of the stimulus, the number and extent of secondary responses and the number of "reversals" (responses initiated in one direction and reversed). The response time was measured by an electric chronometer. In none of these respects did there prove to be a consistent tendency in the performance of the "accident" individuals.

(2) Each graphic record was rated on a 7-point scale according to the degree of "organisation" of the activity which it displayed and without reference to any particular feature. Some of the triads lacked one member, and a small number of individuals were disqualified for one reason or another; finally, 55 comparisons were made between "accident" individuals and other members of the triads. The "accident" individuals were found to have been rated inferior in 42½ cases, there

being one tie, and superior in 12½ cases only; whereas, if there had been no relation between rating and accident history, the "accident" individuals would have been favoured in about half the cases. The proportion of ratings favourable and unfavourable to the "accident" individuals was similar in comparisons with "middle" and "safe" individuals.

The results are presented in Table I in a different form, namely as τ correlations between accident history and rating. The conclusions to be drawn are the same. The triads were divided into four sub-groups according to the age of the members, and correlation coefficients were calculated after the manner of Kendall (Kendall, 1943; Whitfield, 1947), all the members of a sub-group being treated together without reference to the triads. Somewhat different results were obtained in the sub-groups, but this event is hardly a cause for surprise, although the meaning to be given to it is uncertain.

TABLE I

Correlation of Accident History and Rating of Performance in the Test

Age Group	*Birth Year*	*N*	τ	*P*
A	After 1920 ..	18	0·169	—
B	1902–1914 ..	29	0·318	0·04
C	1896–1904 ..	26	0·568	0·001
D	Before 1896 ..	14	−0·148	—
All	Combined ..	87	0·336	0·0005

The coefficient is positive when a positive accident history is associated with an inferior test performance.

All the members of a triad were placed in the same age group, although there was some overlap in the ages of members of the two middle groups. The bottom row of the table was obtained by adding the values for S, S′ and V obtained in the separate correlations for each age group.

The high correlation coefficients found in the middle-age sub-groups and in the whole group strongly support the view that the behaviour recorded in the test reflected the disorder of function responsible for the abnormal accident history. The failure to find differences in the score of amplitude of the responses makes it necessary to reject any hypothesis that the disorder is similar to the "overactive" reaction. On the other hand, the findings are compatible with the view that the disorder is similar to the "inert" reaction, although this similarity is not proved.

III

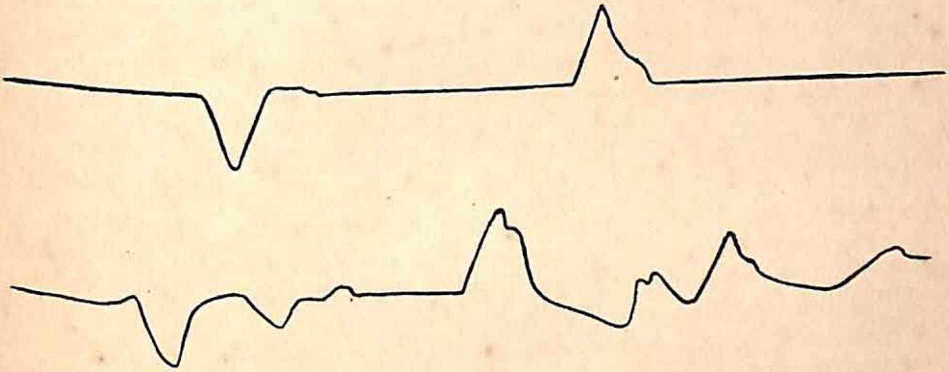
Discussion

The test was applied to the "accident" individuals after they had sustained a series of accidents, and the results might be explained as due to the effects of these accidents, and not as due to a predisposition to them. Moreover, some members of the "accident" and "middle" groups gave evidence at interview of some degree of nervousness dating from an accident. However, the majority of the "accident" individuals seemed to have been quite unmoved by their experience of accidents and to be remarkably happy-go-lucky in their attitude toward the risks of their occupation. On the whole it seems more likely that in these cases the test performance reflected a predisposition, but uncertainty on this point need not embarrass a further consideration of the nature of the disorder of function. The alternative explanation might be a serious objection, if without further evidence the test were to be advocated as a means of eliminating the accident-prone from underground employment, but such a proposal, to which there are many other objections, will not be discussed here.

The recording of the type of behaviour associated with accidents marks only a preliminary phase in research, for it is not now easy to say precisely what characterised the performance of the "accident" individuals. This is so, especially because differences between the performance of the "accident" individuals and others were shown only in ratings and not in scores of particular aspects. Again, the disorder would be more readily defined, had it been possible, as it was in the case of neurosis (Davis, 1948b), to provoke a similar disturbance in the performance of normal individuals; then the disorder could be described in terms of the conditions in which it was displayed. No means of doing this has been discovered so far. It would therefore be premature to enter into a detailed discussion of the nature of the disorder, and it is intended here only to express an opinion on the direction further research should take.

FIGURE 1

EXCERPTS OF TWO RECORDS SHOWING TWO RESPONSES



A. Excerpt of a record from a "middle" individual, rated as 1.

B. Except of a record from an "accident" individual, rated as 5.

Figure 1 shows examples of test records rated as of good and of poor quality. In a normal performance of the test, the responses are skilled and are fitted closely to the changing stimulus, as the pointer moves across the display; they are timed and graded, and the movements of the control are smooth and regular, with the result that the pointer is brought to accurate alignment on the prescribed line. But the responses of the "accident" individuals lacked that essential quality of skill which lies in the close control of response by stimulus. Two explanations of this finding can be offered: either the mechanism, intermediate between receptor and effector, by which the responses are brought about, is defective; or the mechanism is normal, but is not engaged by the stimulus. Eventually these alternatives may be found to be compatible with one another, but at present preference of the one or the other decides the approach to be adopted in further research.

Thus one may try to discover where the defect in the mechanism lies. Several experiments were made in collaboration with the late Dr. W. M. Honeyman from this viewpoint. Relations were sought between performance in the "Skilled Response" test and various measures of "after-contraction"—as an expression of after-discharge —obtained by an original apparatus designed by Dr. Honeyman. No consistent relations could be demonstrated, but the experiments were not satisfactory enough to demand the rejection of the hypothesis that the underlying defect lies in abnormality of after-discharge, for there are many technical difficulties affecting the measurement of after-contraction which have not been overcome; for instance, individual variations were very large, and this fact indicated that important factors in determining the values obtained were not controlled adequately. A further attempt to elucidate this matter must await improvements in method. These experiments dealt with only one of the defects which might be asserted to be the cause of accident-proneness.

The results of the cockpit experiments suggested that the cause of accident-proneness lies in the failure of the response mechanism to be engaged by the stimulus and the results of the experiment described above can be explained by a similar hypothesis. That is to say, the accident-prone are unresponsive to, or inert in relation to, the stimuli comprising the test or work situation. While they are unresponsive to these stimuli, they may be active in other ways; for instance, clumsiness and increased liability to accidents are occasionally reported in the case of acutely anxious patients who are preoccupied with their worries. One may take the analogy of a rider and a horse; a normal individual responds to the environment as a well-trained horse to his rider, whereas the behaviour of the accident-prone is no more at the disposal of the environment than is that of a self-willed horse at the disposal of his rider.

Psychologists have often shown a bias in favour of explanations in terms of permanent or semi-permanent personal qualities, when a performance is impaired from the very beginning and throughout the course of a test, as was the performance of the "accident" individuals in the "Skilled Response" test. But in this case it is at least as likely that the more important cause from the practical point of view lay in their recent experience. Clearly, both innate and acquired tendencies enter into a full explanation of their behaviour, but emphasis is laid on the role of experience, if one supposes that their performance in the "Skilled Response" test was similar to the "inert" reaction observed in the cockpit experiments; for the "inert" reaction developed during the test, to the conditions of which it was demonstrably related. Consideration of the experimental results from this point of view suggests two sets of questions: (i) Does the unresponsiveness of the accident-prone result from the extinction of activity directed to the removal of the physical or psychological dangers in their environment? For what reasons in their past experience does this extinction occur? (ii) Does their unresponsiveness represent the subordination of the motives arising from these dangers to motives arising from other sources? What are these motives, and for what reasons do they take precedence? Relevant to the latter set of questions is the suggestion made elsewhere (Davis, 1948a), that one of the causes of minor aircraft accidents is the pilot's preoccupation with only one part of his task, because of the seeming urgency of the part. In any event, the next development of research requires the collection of evidence from which can be inferred the nature of the past experience affecting the accident-prone, and the nature of the processes by which this experience exerts its unfavourable influence upon the subsequent performance of skills. If a satisfactory treatment of this step can be achieved, practical measures for dealing with the problem of accidents may be found in the elaboration of methods of training and retraining.

In the experiment with the "Skilled Response" test, several other tests were applied which made a variety of demands upon the subjects, and ratings were made at interview of many aspects of behaviour. It had been thought possible that a consistent pattern of correlations between the "Skilled Response" test and the other tests and ratings would emerge and would provide clues to the nature of the disorder revealed in the "Skilled Response" test, but, although some significant correlations were found, they do not advance the argument appreciably. On the other hand, they are compatible with the views which have been expressed. None of the correlation coefficients obtained with the ratings made at interview came near to statistical significance. The coefficients obtained with certain other tests were significant, however, and these and other results are presented in Table II. One cannot say with any certainty what the other tests measure; taking them at their face value, it appears that cognitive functions as measured by the "Matching" test and the "Rey-Davis" test, Part I, did not enter appreciably into the performance of the "Skilled Response" test. The "Matching" test was a new test, designed for the purpose of the investigation by Mr. Whitfield, and probably dealt with cognitive functions entirely. The "Rey-Davis" test has been described by Zangwill (1946). Of more importance were the aptitudes measured by the "Triple Tester" ("Control of Velocity" test), but the coefficients obtained with these tests were smaller than those obtained with the "Rey-Davis" test, Part II (relearning after rotation of the board), and with tendon reflexes (the brisker the reflexes, the poorer the test performance). These last results would suggest the importance of more complex functions. The "Triple Tester," which has been in use in this laboratory for several years, presents a form of "pursuit" task. Part II of the "Rey-Davis" test is done badly if the subject becomes upset or confused by the difficulties of utilizing a newly-learnt response in a situation different from that in which the response was acquired. It is possible that excitability of emotion is the important factor in this part of the test, as it may well be the condition of exaggeration of tendon reflexes also.

TABLE II

Correlation of Ratings in the "Skilled Response" Test with Scores in certain other Tests

Test	*N*	τ	*P*
Matching	63	0·056	—
Rey-Davis, Part I	87	0·115	—
Triple Tester:			
Simple control	87	0·189	0·02
"Velocity" control . .	87	0·189	0·02
Rey-Davis, Part II	87	0·259	0·001
Tendon Reflexes	87	0·254	0·004

The coefficients were calculated by combining the values for S, S′ and V obtained in the four age sub-groups separately. The coefficients are positive when a poor performance in the "Skilled Response" test went with a high error score. Tendon reflexes were graded on a 5-point scale, and the coefficient is positive when a poor test performance went with brisk reflexes.

IV

SUMMARY

In an experiment with coalminers, performance in the "Skilled Response" test was found to be correlated relatively highly with accident history, when this performance was rated on the degree of organisation of the discrete responses of which it was composed. It can therefore be claimed that behaviour in the test reflects the disorder of function responsible for accidents. As to the nature of this disorder, it is suggested that the activity of the accident-prone is not entirely at the disposal of the immediate environment, as it is necessary that it should be for the efficient performance of a skill. The reasons for this unresponsiveness are not known, but should be sought in their past experience and in the processes by which past experience may exert its influence.

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APPARATUS FOR THE CONTINUOUS OPERATION OF A FILM-STRIP PROJECTOR

BY

A. CARPENTER

(From the Medical Research Council's Unit for Applied Psychology, in the Psychological Laboratory, Cambridge)

For experiments involving serial choice reactions, based on intricate visual displays, it was desired to adapt a commercial film-strip projector, to project a series of still pictures, at rates varying between two pictures per second, and one every thirty seconds, either at a uniform rate, or at a rate, not necessarily uniform, determined by the subject, in making the correct response.

In the commercially available film-strip projector chosen (Gaumont British, Model 38) the film is moved by turning a knob by hand; this note describes an apparatus which moves the film mechanically, in the desired manner.

Description of Apparatus. The principle of the apparatus is as follows (see Diagrams I and II):—

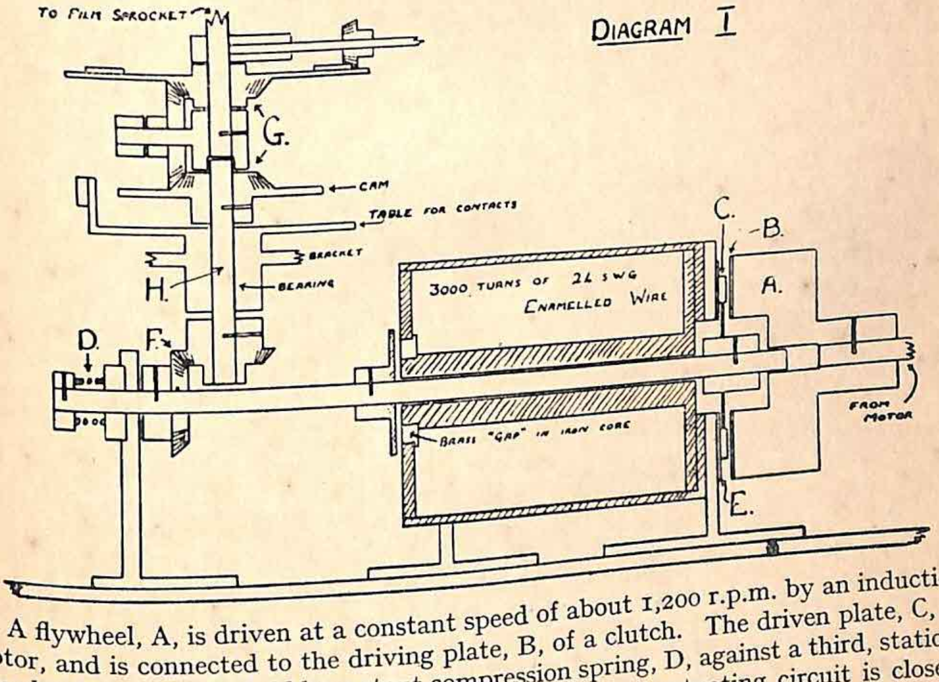
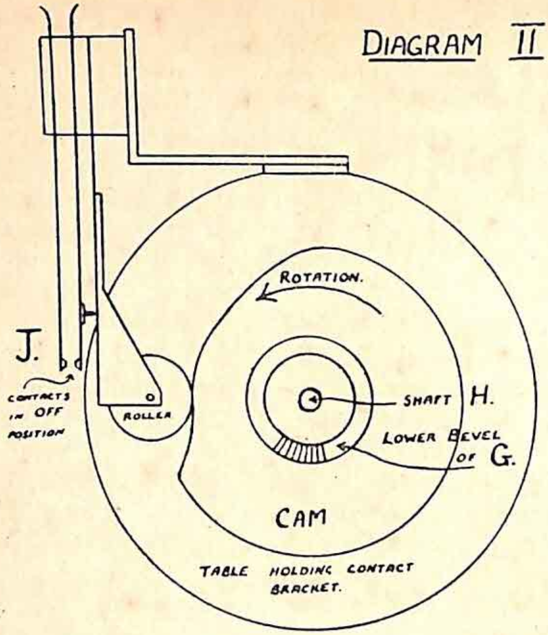


DIAGRAM I

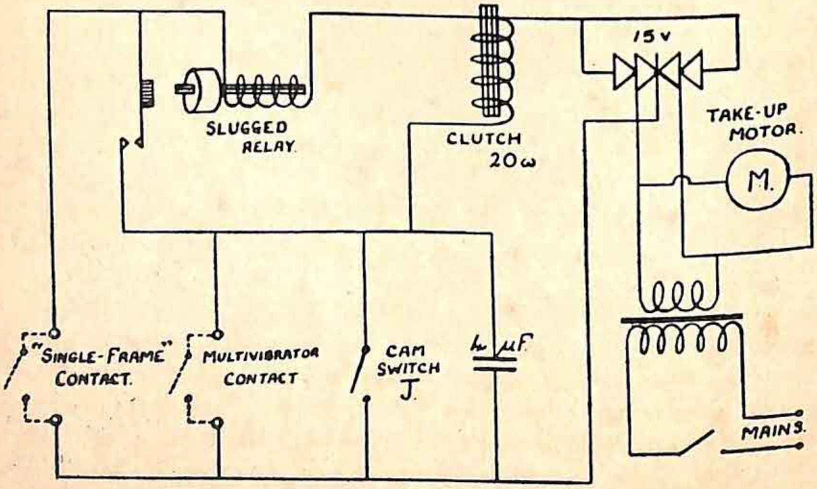
A flywheel, A, is driven at a constant speed of about 1,200 r.p.m. by an induction motor, and is connected to the driving plate, B, of a clutch. The driven plate, C, of this clutch is normally held by a stout compression spring, D, against a third, stationary plate, E. When it is desired to move the film, an actuating circuit is closed, which, by an electro-magnet system, pushes the driven clutch plate, C, away from the stationary plate, E, and into contact with the driving member, B; which is thus connected, via a bevel gear, F, and a differential gear, G, with the sprocket which moves the film. Diagram I shows the construction of the magnetic clutch.

DIAGRAM II



To ensure that the film is moved by the correct amount, the energising circuit of the clutch is controlled in two ways. The contact initially making the clutch circuit, is made for a time less than that needed for the complete movement to occur, but greater than that needed for a cam-operated contact, J, on the driven shaft, H, to close. This second contact is arranged to break when the driven shaft has made one revolution, and on this break, the clutch is released, so that the driven plate, C, is returned by the spring, to the fixed plate, E, causing the driven shaft and film to stop immediately. Diagram II shows the cam and the second contact; the electrical circuit is given in Diagram III.

DIAGRAM III



To move the film exactly 1½ inches, which is the length containing one standard "Leica-sized" frame (24 × 36 mm.), the film sprocket needs to be rotated through half a revolution. The driven shaft of the actuator mechanism, H, moves one whole revolution at a time, and the desired reduction is obtained by a differential gear, shown in Diagram I. The upper bevel of this gear is connected to a control knob, via a reduction gear of about 10 : 1, and by operating this knob, the frame of the film can be exactly centred in the projector gate. When not being operated, this knob is clamped by a screw, so that it cannot be turned by the machine.

There are two practical details of importance. First, the commercial projector contains glass back and front pressure plates in the gate, to hold the film flat. Although a cam mechanism is provided to separate them to allow the film to move freely, it is found in practice that this is insufficient to prevent scratching, and so the front glass plate is removed in this apparatus. Secondly, as "normal" film strips are only a few feet long, the delivery and take-up equipment on the G.B. projector has been removed, and 100-foot spools mounted externally. The "jerk" of the film movement is taken up, on both sides, by light, spring-loaded jockeys; and finally, the take-up spool is mounted on a table, rotated by a separate, light motor, whose speed is adjusted just to take-up the film delivered at the fastest rate of presentation, of two frames per second.

No practical details of the construction, are given here, but these can be supplied if required.

The Timing Apparatus. To control the rate of film movement, an apparatus was needed, which would close the clutch circuit for a definite time, as indicated above, and actually about 0·05 seconds, at any desirable rate over the required range: that is, from twice a second, to once in 30 seconds. In other words, the duration of contact had to be independent of the interval between successive contacts.

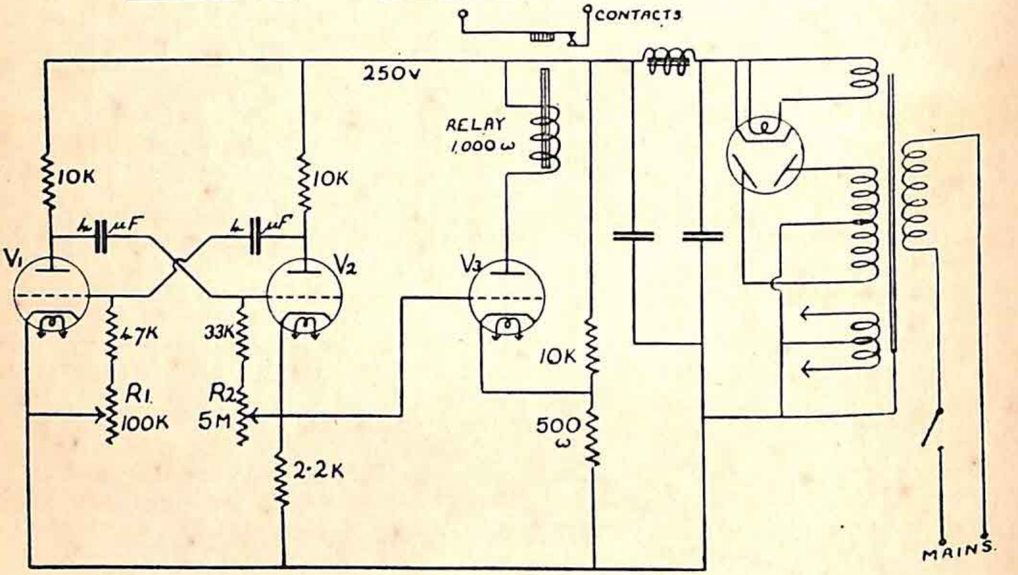
This fact, together with the wide range of rates needed, excluded any simple mechanical device from consideration, and an electrical oscillator was therefore used. The circuit of this is given in Diagram IV. It is a two-valve multivibrator circuit, using triodes of 10,000 ohms impedance, with a buffer valve to operate a relay which carries the contact energising the magnetic clutch. The point of interest about this circuit, is that the times for which the contact is closed, and open, are largely independent of each other. The grid leak, R^1, controls the duration of contact, and this is adjustable over a small range, to suit the actuator mechanism; and the grid leak, R^2, controls the intervals between successive contacts, and thus the rate at which the display is changed. The full range required can easily be achieved, and in fact, extends from one contact in 30 seconds to four per second.

Single Frame Operation. For operation by a manually-controlled key, either by the subject, or experimenter, it is necessary to ensure that the clutch circuit does not remain closed for as long as the key is pressed, but only for as long as is necessary for the cam-operated contact to close: that is, for about 0·05 seconds. This is ensured by the use of a "slugged" relay, energised by the operator's key, and which, when it closes after a slight delay, isolates the key circuit from the clutch, leaving this in the control only of the cam-operated contact. This circuit is also shown in Diagram III.

Conclusion. No originality is, of course, claimed for the use of a film projector as a tachistoscopic display. But it was considered worthwhile to describe this apparatus for two reasons. First, this apparatus covers a very wide range of presentation rates, in a very convenient manner. As the rate is determined entirely electrically, it can be changed rapidly and easily, or if desired, the rate could be changed slowly and progressively during the course of an experiment. For example, beginning with a rate of display well within the subject's capacity, it could be slowly increased, without any indication being given to the subject, until his breakdown point is reached.

Secondly, using "single-frame" operation, the duration of each presentation can be completely independent of those preceding or following, and thus if desired a completely random series of exposure times could be given. Alternatively, the apparatus can be connected so that the subject's act of pressing the correct response key, changes this display, and thus the rate of presentation is determined by the subject himself.

DIAGRAM IV MULTIVIBRATOR



$V_{1,2,3}$ = CV1135.

Again, the apparatus could be used by a lecturer, using film strip to illustrate his lecture, and operating the projector from a distance, without the need of an assistant.

These two points, coupled with the natural adaptability of film, whereby the display can be varied between the simplest of diagrams, and a detailed half-tone photograph, make this apparatus a very flexible one.

The chief disadvantage of the apparatus is the noise made by the constantly-running motor, and a considerable "thumping" made each time the display is changed. Both noises are inseparable from a machine of this type, but could undoubtedly be reduced. In any case, it is fully practicable to have the projector in a separate room from the subject, and project through a window.

The apparatus was designed and constructed in connection with the work of the Medical Research Council's Applied Psychology Unit in Cambridge, and it is intended to be used in a study of tasks involving the making of rapid choice decisions based upon a complicated situation.

(*Manuscript received 28th June, 1948.*)

BOOK REVIEW

Brain and Intelligence: A Quantitative Study of the Frontal Lobes. By WARD C. HALSTEAD. University of Chicago Press, 1947. Pp. xiii + 206.

The name of W. C. Halstead is already well known to psychologists in this country who have had occasion to keep in touch with recent work on the effects of brain lesions in man. His earlier papers were distinguished both by a certain freshness of approach and by a technical proficiency only too rare in this semi-clinical department of psychology. The present book, which has been eagerly awaited, is unfortunately less satisfactory. The experimental analysis of cognitive defects—in which Dr. Halstead is highly skilled—takes second place to the statistical analysis of mental test data. The tests, moreover, have been selected with comparatively little reference to established patterns of deterioration. Indeed, it is difficult to avoid the conclusion that Dr. Halstead has been asking the wrong questions of his material. The use of traditional clinical and experimental method rather than the specious discipline of psychometric testing, might have given a high place to his work in the long and chequered history of research into the functions of the frontal lobes.

The first part of Dr. Halstead's study is entitled *The Structure of Biological Intelligence.* After a brief, though cogent, review of the principal doctrines of intelligence, the author passes on to give a full account of his own research methods. "The quantitative findings . . . are based upon the test results from a battery of 27 neuro-psychological indicators applied individually to 237 subjects" (p. 30). Of these, 50 were cases of lobectomy and 30 normal controls. The remainder were largely cases of head-injury, but a small number of pre-frontal lobotomies were also included. The so-called "neuro-psychological indicators" turn out to be a selection of psycho-physical and cognitive tests ranging from the Schlaer-Hecht anomaloscope to the Minnesota Multiphasic Personality Inventory. No fewer than 17 tests bear the name of the author. From this battery, ". . . those tests were selected which yielded objective scores suitable for treatment by means of the Pearson coefficient of correlation, r, and which seemed likely to reflect some component of biological intelligence" (p. 39). This group of tests, 13 in all, include the Carl Hollow-Square, the Hemnon-Nelson intelligence test, Halstead's test of categoreal abstraction, a tactual performance test, a finger-oscillation test and Halstead's Dynamic Field procedure. The inter-correlations between the scores for these 13 tests were subjected to various techniques of factorial analysis of which the oblique-factor matrix solution obtained by Thurstone's method was considered to be the most appropriate. The four-factor description of the variance which is thereby obtained furnishes the basic *rationale* of the entire study.

Although the author is cautious—in theory—regarding the psychological intelligibility of factors, he is—in practice—extremely bold in his interpretations. The first factor termed the "central integrative field factor" (or *C*), is held to represent ". . . the ground function of the 'familiar' in terms of which the psychologically 'new' is tested and incorporated." Indicators with high loadings on this factor include the Henmon-Nelson intelligence test and the Halstead test of abstraction. The second factor, termed the "factor of abstraction" (*A*), is said to be predominantly concerned in the comprehension of relationships. Tests with high factor loadings on *A* include the Carl Hollow-Square in addition to the test of categorial abstraction. The third factor, called the "power factor" (*P*), is alleged to operate to regulate or counterbalance emotional forces. It is indicated (curiously enough) by the flicker-fusion test and by two variants of the Dynamic Visual Field test devised by Halstead. The fourth factor, for which the evidence is admittedly less complete, is termed the "directional factor" (*D*), and is supposed to govern the expression of intelligence in both its sensory and motor aspects. These four factors, *C*, *A*, *P* and *D*, are regarded as the basic components of what the author calls "biological"—in contra-distinction to "psychometric"—intelligence and their inter-relations are discussed in a chapter bearing the somewhat grandiose title of *The Nuclear Structure of the Ego.*

Part II is entitled *Localisation of Function in the Brain.* Ten of the critical tests, including the flicker-fusion test, a version of the Sequin-Goddard formboard and the categorial abstraction test, were chosen as the most satisfactory differential indicators of brain-injury. The results were combined in the form of an "impairment index" and all conclusions are based upon the use of this somewhat arbitrary measure. It was found that the cases of frontal lobe lesion presented the most pronounced deterioration. "The mean impairment index for frontal lobectomies was found to be about six times that for normal control subjects and about three times that for non-frontal lobectomies" (p. 148). This relation was found to hold irrespective of the laterality or the extent of the lesion. On the other hand, no evidence of a general principle of Mass Action was forthcoming from these results. Further, bilateral subcortical frontal lesions (leucotomy) did not yield a significant index of impairment. The author is careful to stress that impairment on the present tests is referable neither to sensori-motor defects nor to language disorder. It is concluded that the frontal lobes constitute the anatomical substrate of what the author has agreed to call "biological intelligence."

It is difficult, perhaps impossible, to appraise Dr. Halstead's work without taking account of general considerations regarding the interpretative value of factorial analysis. Those favourably disposed towards the method will undoubtedly find much to interest them in Dr. Halstead's conclusions. On the other hand, those who come to this book with pre-existing doubts will find nothing in its contents to allay them. Have we really good grounds for supposing that the factors extracted can be interpreted in the manner suggested? To give but one example, are we really justified in jumping from the observed inter-correlations to an hypothetical function "which reflects the undistorted power factor of the brain?" To some of us, at least, an interpretation of this order testifies to prowess in mental gymnastics rather than sober devotion to scientific method. And even if we grant that it is both legitimate and fruitful to postulate a system of factors, such as *C*, *A*, *P* and *D*, do we not sacrifice much of the clarity thereby gained by garbing our system with a picturesque name? Concepts such as "nuclear ego structure" are neither demanded by the experimental findings nor conducive to clarity in their discussion.

In the application of the factorial method to the elucidation of organic intellectual changes, the author has taken a step which, though undoubtedly original, is possibly retrograde in its ultimate implications. Lashley, it is true, long ago pointed out that the behavioural effects of cerebral lesions can seldom be interpreted in accordance with traditional psychological categories and suggested that factorial analysis might well provide more adequate terms of reference. Had Dr. Halstead been able to show that his various factors are specifically related to particular neural functions, one might well feel the force of his departure from traditional psychological analysis. But the question, which the author himself poses, of the extent to which the factors concerned are represented in the brain is never clearly answered. The "impairment index," whatever its value in practical assessment, does not provide a theoretical basis for the elucidation of cerebral functions. All that has been established is that cases of unilateral frontal lobectomy show significant impairment on an arbitrarily selected battery of psycho-physical and mental tests. Although this finding is interesting, and perhaps important, it is of little theoretical value until it is related to a broader explanatory hypothesis. To the present reviewer, it is most doubtful whether factorial analysis can ever yield such an hypothesis. Dr. Halstead himself comments that "Factor analysis is primarily an exploratory tool. . . . It does not define the factors isolated, although it may help to do so" (p. 55). One might suggest that, having made his provisional exploration, Dr. Halstead should now devote himself to detailed empirical study of the functions which he believes he has isolated. Until this has been done, the existing interpretations must be treated as wholly speculative.

Dr. Halstead's work is efficient, intelligent, fashionable; it will prove, beyond doubt, immediately acceptable to many psychologists. But let it not be forgotten that what is most conspicuously modern is soonest out of date. The author would do well to acquaint himself with the history of John Hughlings Jackson's work, which had the inestimable advantage of being unfashionable in its own day. Perhaps, in a later edition of this book, the name of Hughlings Jackson will appear in the index. O. L. Z.

EXPERIMENTAL PSYCHOLOGY GROUP

RULES

Name and Objects

1. The Society shall be called "The Experimental Psychology Group."

2. The objects of the Group shall be the furtherance of scientific enquiry within the field of Psychology and cognate subjects, by holding periodical meetings at which papers may be read and discussions held, and by such other activities as may be decided upon by the Group, and the dissemination of information and educational material made available as a consequence of psychological research, including the publication of *The Quarterly Journal of Experimental Psychology*. The Group shall not engage in any activity intended to affect the professional status of its members, or of psychologists generally.

Members

3. Membership shall be by invitation only; the number of members shall be limited to 30, or to such higher number as may be determined from time to time by resolution of the Committee. After approval by the Committee the names of those to be invited shall be submitted to a General Meeting of the Group, and if any objection be then raised to a prospective member the question of his election or otherwise shall be determined by a majority vote of those present at the meeting.

Officers and Committee

4. The business of the Group shall be conducted by a Committee consisting of the President, Secretary, Treasurer, Editor and two other members.

(*a*) The Committee shall have power to co-opt one further member.

Election of Officers and Members of Committee

(*b*) The President shall be elected by the Annual General Meeting of the Group and shall hold office for one year. He shall be eligible for re-election for the succeeding year, when he shall retire and shall not again become eligible for election to the Committee for a period of one year.

(*c*) The Secretary and Treasurer shall be appointed by the Committee from among its members. They shall hold office for one year and shall always be eligible for re-election.

(*d*) Ordinary members of the Committee (other than those appointed by the Committee to be Secretary and Treasurer or unless elected as President or as Editor) shall be elected for one year and shall be eligible for re-election for the succeeding year at the end of which they shall retire and (unless they then occupy the position of Secretary or Treasurer) shall not again become eligible for election to the Committee for a period of two years.

(*e*) The Editor shall be elected by the General Meeting of the Group. He shall hold office for two years and be eligible for re-election.

(*f*) Co-opted members of the Committee shall hold office until the next Annual General Meeting of the Group, when they shall retire, but shall be eligible for election as ordinary members or for co-option as co-opted members.

(*g*) The Editorial Board shall consist of the Editor and of six members (other than the Editor), not being necessarily members of the Committee, who shall be elected by a General Meeting of the Group following the advice of the Editor. Two of them, selected by lot in the first instance and then in rotation, shall retire from the Editorial Board each year at the Annual General Meeting, but shall be eligible for re-election to it.

Method of Election.—Nominations for membership of the Committee and of the Editorial Board shall be sent to the Secretary four weeks before the Annual General Meeting by any member or by the Committee, and a list of such nominees and of their proposers shall accompany the Notice of the Annual General Meeting, which shall be given to members of the Group fourteen days prior to the meeting.

SUBSCRIPTION AND FINANCE

5. Each member shall pay an annual subscription of ten shillings which shall entitle him to any publication issued by the Group, except as may be otherwise decided by the Committee. Subscriptions are payable in advance and due on 1st January in each year. Copies of the *Quarterly Journal* shall be sent free of cost to all members whose subscriptions have been paid.

MEETINGS

6. General Meetings of the Group shall be held at such times and at such places as may be determined by the Committee, but in each year there shall be at least two General Meetings other than the Annual Ordinary General Meeting.

7. The Annual Ordinary General Meeting shall be held in December of each year (or at such other time as the Committee may from time to time determine), at which the Secretary shall present a Report and the Treasurer shall present the Balance Sheet and Revenue Account. Fourteen days' written notice of all General Meetings shall be given to all members of the Group. The President shall take the chair at any General Meeting, or if he is absent, then any member of the Committee may be chosen by the Committee or by the General Meeting to preside.

An Extraordinary General Meeting may be summoned at any time by the Committee, or (on a written requisition signed by at least ten members) by the Secretary, in which latter event the requisition and the notice convening the meeting shall specify the resolution to be moved thereat and no other business other than that arising out of the resolution so specified shall be dealt with or transacted at such meeting.

VISITORS

8. Each member shall have the privilege of introducing one visitor at each General Meeting. The Committee shall have the right of introducing not more than four visitors at any General Meeting, and such guests of the Committee may be invited to make communications of a scientific character to the Group. The names of visitors and of members introducing them shall be entered in a book provided for the purpose, and a member introducing a visitor shall give notice to the Secretary if meals or accommodation are involved. Visitors shall not be present during the transaction of business, except at the invitation of the Committee, and under no circumstances shall they have power to vote.

9. These Rules may be altered, revoked, amended or added to in any manner and to any extent at the Annual General Meeting or at any Extraordinary General Meeting specially convened for that purpose, but notice of the proposed alteration shall be given in the notice convening the meeting and any such alteration shall require a two-thirds majority of those present and voting thereon.

10. *Resignation and Expulsion.*—Any member of the Group may by written notice signed by him and addressed to the Secretary at least one calendar month before his subscription becomes due, and on payment of all arrears of subscriptions payable by him, retire from membership of the Group, and the Committee shall have power pursuant to a resolution passed at any Annual or Extraordinary General Meeting of the Group to require the resignation of any member without assigning any reason for so doing, or in default of such resignation to expel such member from the Group, but in the latter case only after affording such member an opportunity of being heard by the Committee on the subject of his expulsion from the Group before resolving upon such expulsion.

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THE EFFECTS OF REPEATEDLY RETESTING THE SAME GROUP ON THE SAME INTELLIGENCE TEST

PART I: NORMAL ADULTS

BY

ALICE W. HEIM and JEAN G. WALLACE

(From the Medical Research Council Applied Psychology Unit, Cambridge)

I. *Introduction* (pp. 151–152). II. *Aims of Enquiry* (p. 152). III. *Findings and Discussion: (a) The general trend of scores* (pp. 152–155). *(b) Correlations between testings* (pp. 155–156). *(c) Relationship between Part* I *and Part* II (p. 156). *(d) The proportion of answers correct to answers given* (pp. 157–158). *(e) Examination of mistakes* (p. 158). *(f) Comments received from subjects* (pp. 158–159). IV. *Summary and Conclusions*

I

INTRODUCTION

In October, 1945, members of a W.E.A. class in Psychology were asked if they would volunteer to take the same Intelligence Test on several successive occasions, the maximum number of times being ten. The test was to be taken each week after the class, and nearly everyone present (twenty-three subjects) took it on this first occasion.

The test given was AH 4, which is a test of general intelligence, not of specific aptitudes. It is in two parts, Part I having a verbal and arithmetical bias and Part II, a visual bias. The qualities tested are: ability to reason, to obey simple instructions, to understand the meaning of everyday words, and to observe details accurately. The marks obtainable on each Part are sixty-five, and the final Test Score is the sum of the scores on the two parts.

Ten minutes are allowed for each part; this is too short a time to enable any but the quickest candidate to finish. The questions in both parts of the test are graded in order of difficulty, from very easy ones at the beginning to fairly stiff ones at the end. Thus those working both quickly and accurately will obtain the highest score.

The subjects were not told their individual scores until after the last testing, when each subject was told his first score and his highest score. Every week, however, before the test, the subjects were told the mean score achieved the previous week by everyone who had taken the test on that occasion. It was hoped that this information would provide an incentive, and maintain the subjects' interest in the enquiry.

Three testers took turns in giving the test—one giving it six times, one three, and the third, once. The standard instructions were, of course, adhered to throughout. (There was no indication that the change of testers had any effect on the scores.)

Twenty-three subjects (twelve women and eleven men) took the test once or more; twelve took it seven times; nine, eight times; seven, nine times; and two took it ten times. Their ages ranged from twenty-one to fifty-four inclusive, and the twelve who took it seven times had an average age of thirty-five. Reference is made in this Report to these twelve subjects by numbers, odd ones indicating the men and even ones the women.

II

Aims of Enquiry

The aims of the enquiry were as follows:

(*a*) To gain evidence on the importance of the part played by individual variation in psychological tests.

(*b*) To estimate the extent and rate of improvement over successive trials.

(*c*) To discover whether, and in what respects, those with initially high and initially low scores differ in their degree of improvement.

(*d*) To discover whether the correlation between Parts I and II varies at different testings, and whether people initially good on one Part and poor on the other, eventually pull up on the latter, or display the same difference throughout the testings.

(*e*) To determine whether the ratio between the number of correct answers given and the number of questions attempted, changes or remains constant, as the test is taken repeatedly.

(*f*) To compare the ratio of (i) the number correct to the number attempted, with (ii) the actual number attempted, in order to see how far the two are related.

(*g*) To examine the mistakes made, and to ascertain in particular whether people continue to make the *same* mistakes.

(*h*) To discover where possible, from the subjects themselves, any views or feelings aroused by the testing, such as boredom or continued interest, and their opinion on psychological tests generally.

III

Findings and Discussion

A. *The General Trend of Scores.*

Nearly all the first scores were above the average for the general population, and none was very low. They ranged from 35–92 inclusive, and averaged 64·1. The average for adults in industry is 45. Any W.E.A. group is, of course, likely to be pre-selected.

Unless it is particularly stated to be otherwise, the findings and conclusions in this Report are based on the results from the nine subjects who took the test eight times. (The progress curves of Nos. 1, 10 and 13 are not shown in Figure I, as these subjects took the Test seven times only.)

The curve showing the trend of scores over successive trials was found to rise fairly steeply at first, and then level out. Figure 1 shows the progress curves for the nine subjects. As will be seen from this Figure, the subjects with the lowest scores continue to improve long after the higher scorers have ceased to improve. However, even the poorer subjects show some signs of levelling out, towards the end of the eight testings. This characteristic curve, rising at first steeply and, later, flattening out, was found with each Part separately, as well as with the Total.

FIGURE I

PROGRESS CURVES FOR NINE SUBJECTS WHO TOOK THE TEST EIGHT TIMES

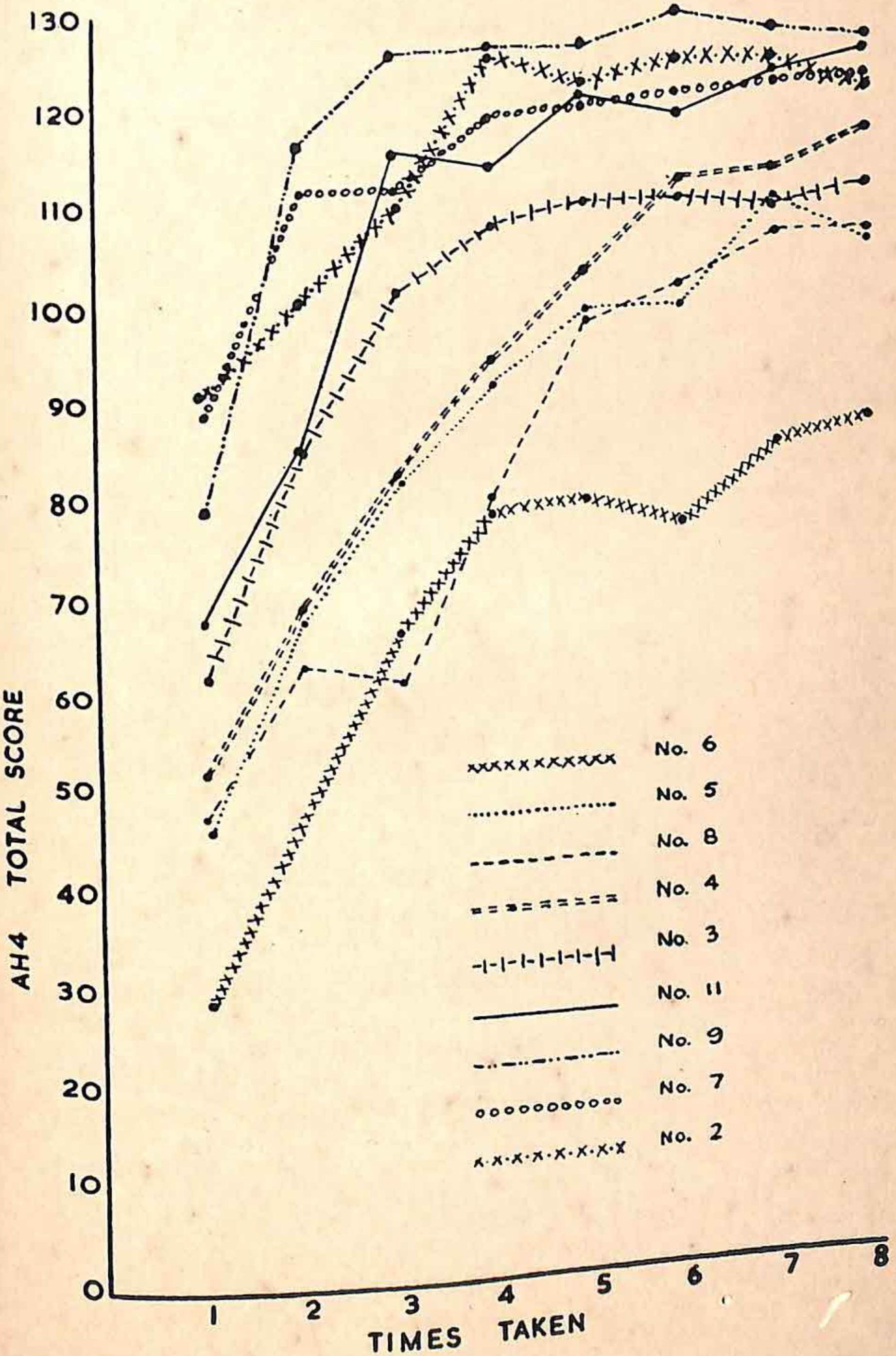
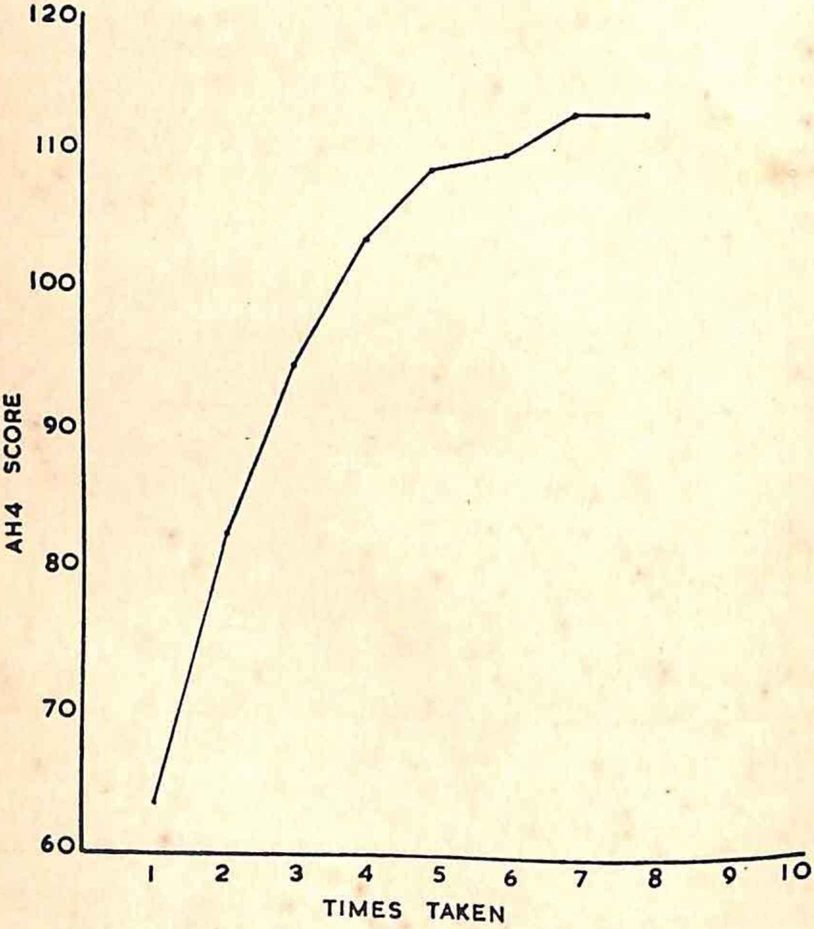


Figure 2 shows the *means* for each time. These, again, form a remarkably smooth curve, steeper at first and tending to level out towards the end. With this group of subjects, the mean rises from 64·1 to 113·2. Since the maximum score obtainable is 130, and several subjects came within a few marks of this, it will be realised that some people, even after eight trials, are far from obtaining full marks. The lowest original scorer (No. 6) reached a maximum of 89 marks on her ninth and last trial, while the original highest scorer (No. 2) gained 126 on her ninth trial and had already obtained 125 on her fourth trial. No subject ever did obtain 130 marks, though one (No. 9) obtained full marks once in Part II, and one (No. 1), in Part I three times.

FIGURE 2

MEAN SCORE OF NINE SUBJECTS WHO TOOK THE TEST EIGHT TIMES



It would appear, then, from these limited data, that the less intelligent subject improves more slowly, and perhaps to a greater extent than does the highly intelligent subject. This finding may well be misleading, however, since the brighter subjects had much less scope for improvement than the duller ones.

Apart from the fact that the highest scorers were approaching the maximum possible score, already at their fourth and fifth testings, the questions at the end of the Test are much harder than those earlier on. It may be that the less intelligent would prove quite incapable of tackling the really difficult questions, if they ever succeeded in reaching the end of the Test.

In order to ascertain the relationship between intelligence and type of progress curve, it would be necessary to repeat the experiment either with a less intelligent group on the same Test, or with a similar group on an Intelligence Test which extends the brighter subjects more fully. It would be desirable also to repeat the whole experiment with very much larger groups and over a longer period.

B. *Correlations between Testings.*

Table I shows the correlations between the means on each set of test scores with (*a*) one another, (*b*) the pool of all the scores. In correlating each set of scores with the pool, the set in question was *included* in the pool. Thus, the first set of scores was correlated with the sum of the first to eighth sets inclusive; the second set of scores was correlated with the same sum, and so on. It was recognized that this would push the correlation up slightly; but it was considered more satisfactory to compare each set in turn with the *same* pool and this clearly could be the case only if every set of scores was included in the pool. The high correlations found between each pair of separate test scores appears to justify this decision. It may be seen from Table I that all the correlations between individual sets of test scores are highly significant, and that none dropped below ·805 (which is that between the first and last sets).

TABLE I

INTERCORRELATIONS OF SUCCESSIVE ATTEMPTS

(Nine subjects who took the test eight times)

	1st	*2nd*	*3rd*	*4th*	*5th*	*6th*	*7th*	*8th*	*Pool of all 8*
1st	—	·915	·830	·918	·892	·860	·828	·805	·919
2nd	·915	—	·909	·951	·939	·913	·878	·853	·968
3rd	·830	·909	—	·970	·922	·857	·833	·836	·940
4th	·918	·951	·970	—	·949	·904	·872	·857	·975
5th	·892	·939	·922	·949	—	·977	·965	·958	·991
6th	·860	·913	·857	·904	·977	—	·977	·982	·970
7th	·828	·878	·833	·872	·965	·977	—	·977	·903
8th	·805	·853	·836	·857	·958	·982	·977	—	·940

In view of these highly significant relationships, it would appear from these limited data that to give the Test once is as good a relative measure of intelligence *within the Test Group*, as to give it more often: the rank order of the subjects remains virtually unchanged throughout the testings. However, as has been shown, the *crude scores* of each individual show considerable improvement throughout the testings, and this should give pause to any theorist who believes in the measurement of intelligence as an absolute quantity.

The constancy of rank order throws some light on the vexed question of the part played by individual variation in psychological testing. The subjects participating in the investigation are small in number and, being W.E.A. students, form a selected group in several respects. However, they too presumably are liable to indigestion, to over- or under-work, and to domestic troubles. The whole period covered by the testings was only ten weeks, and, with one exception (of a fortnight), the interval between tests was always one week. It is possible that, given a longer period, and varying lengths of time between testings, individual differences would play a greater part. However, the consistently high correlations between every pair of testings, and between each testing and the pool, does seem to suggest that individual variation exerts a surprisingly small influence over test results—in any case over *intelligence* test results.

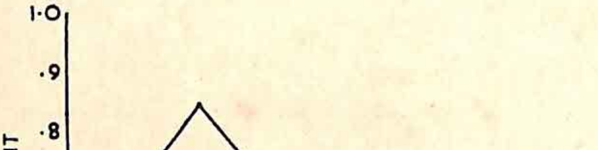
The early, rapid, improvement and the consistent order of the subjects' test scores, has some bearing on the problem of test-sophistication. Our results imply that experience of being tested does affect the subjects considerably—but to roughly the same extent. The effect on subjects of taking a number of *different* intelligence tests is a further problem for investigation.

C. *Relationship between Part I and Part II.*

Figure 3 shows the correlations between the two Parts on the different testings. The last three correlations are not significant. Though the curve is irregular, the general trend is downward, falling steeply between the sixth and seventh times, with a slight rise to the eighth. (With the twelve people who did the test seven times, the curve is much the same, except that the fall is uninterrupted from the second time onwards.)

FIGURE 3

Correlation Between Parts I and II



This fall may be due to the fact that with repeated re-testing, the range of scores of the group becomes steadily narrowed (the standard deviation falling from 19·54, the first time, to 12·13, the last time), or to the fact that the effect of individual differences in bias tends to increase markedly with re-testing, or to a combination of both. It suggests that, particularly in a test-sophisticated world, Intelligence Tests with several biases are likely to produce less misleading results than tests which have only one type of bias.

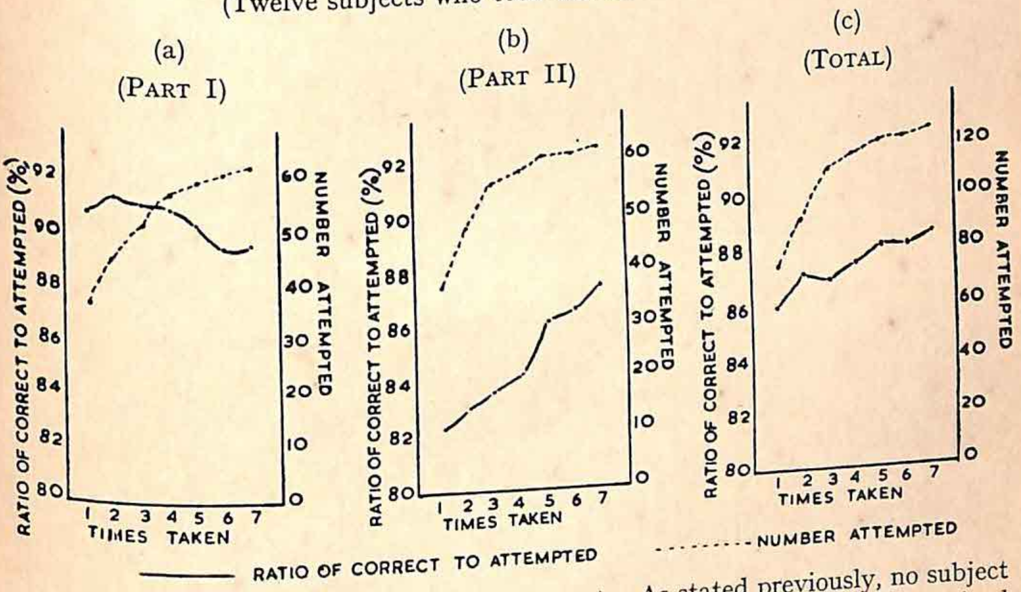
D. *The Proportion of Answers Correct to Answers Given.*

Figure 4 shows the ratio of the number of correct answers given to the number of questions attempted, as an average for each of the seven times twelve subjects took the test. 4 (*a*) shows that in Part I, while the number attempted rises steadily, the *ratio* of correct to attempted, though always high, *falls* gradually from 91·62 per cent., the second time of testing, to 89·78 per cent. on the sixth time, rising to 89·82 per cent. on the seventh. 4 (*b*) shows that in Part II, while the number attempted rises still more steeply, the ratio, though never as high as the lowest in Part I, is at its lowest the first time (82·54 per cent.) and *rises* from this steadily to 87·60 per cent. on the seventh time. 4 (*c*) shows the effect on the Total of the combination of these two, which is a steady rise in the number attempted, and a more gradual rise in the ratio of correct to attempted.

FIGURE 4

COMPARISON OF RATIO OF CORRECT ANSWERS TO QUESTIONS ATTEMPTED, WITH NUMBER OF QUESTIONS ATTEMPTED

(Twelve subjects who took the test seven times)



The range of the ratio is in no case very great. As stated previously, no subject ever obtained the maximum score on the Total, and in addition, no subject obtained a ratio of 100 per cent. on the Total. In Part I, however, 100 per cent. on the number attempted was obtained four times by one person (No. 1), three times by another (No. 13), and once by two others (Nos. 5 and 9). In Part II, 100 per cent. on the number attempted was obtained once only (by No. 9).

The effect shown in Figure 4 (*a*) (Part I) may be due to an increasing carelessness on the part of the subjects, or a greater difficulty found towards the end of Part I by this particular group; or it may be that the grading of the questions in order of difficulty is not quite parallel in the two Parts; or that the questions at the end of Part I are relatively more difficult than those at the end of Part II. Certainly, more mistakes were made at the end of Part I than at the end of Part II. In Part I, out of twenty-nine attempts at Question 65 (the last question) eleven wrong answers were given; out of thirty-two attempts at Question 64, fifteen answers were wrong.

In Part II, out of thirty-nine attempts at Question 65, none was wrong; and out of thirty-nine attempts at Question 64, one was wrong. Fewer subjects reached the end of Part I, so that it may be that Part I on the whole is more difficult than Part II.

It will be seen that in Part II, the ratio is lower than in Part I, but rises steadily. It may be lower because this group had a particularly verbal and arithmetical bias; most groups tested on AH 4 tend to gain higher marks on Part II than on Part I. However, since in the course of the later testings, many subjects reached the end of Part II with time to spare, there would be scope for improvement on the later trials.

E. Examination of Mistakes.

The number of mistakes made in the two Parts of the test was examined. It was found that almost three times as many persistently wrong answers were given in Part II as in Part I, nearly twice as many being the *same* wrong answer throughout. This may be due to carelessness initially produced by more awareness of the time limit, some answers given at first being uncorrected later because they are by then unquestioned. The number of questions to which persistently wrong answers were given was divided fairly evenly between the twelve subjects; the average was 2·8 on Total score. Only one subject (No. 9) got no question persistently wrong.

A number of mistakes were made by subjects after getting the question right the first time or two, and in some cases the answer given was wrong, then right, then wrong again—sometimes the same wrong answer being given, sometimes a different one. One of the lowest scorers (No. 6) answered several questions somewhat as she did the following: the first time correct, the second time wrong, the next time with a different wrong answer, then the next twice the original wrong answer, followed by the second wrong answer twice. This sort of inconsistency was found among all the subjects, but was most noticeable among the lower scorers. In no case does any subject progress by always correcting earlier mistakes and always giving the originally given correct answer.

The higher number of wrong answers given in Part II may partly account for the lower ratio of correct to attempted in this Part.

Whether the ratio on the Total would continue to rise if the test were taken more times is not known. Many subjects reached the end in both Parts, and it would appear that any improvement in the ratio of the group as a whole could be effected only by a continuing rise in the scores of the poorer subjects. It will be seen from the shape of the curve that it is possible that these subjects, as well as those with the higher scores, have reached their maximum after eight trials, but it is conceivable that further trials would enable them to increase their scores. It appears, however, that those who have once attempted the maximum possible do not produce a greater number of correct answers on further trials, in any case, when the interval between tests is one week. Having attempted the maximum possible, the subjects' number of correct answers tends to fluctuate.

F. Comments Received from Subjects.

Essays on the test were received from four subjects, and some comments were made by the group after each testing. Of those who submitted essays, Nos. 5 and 8 said that they had felt no boredom, and No. 4 became bored at the fourth or fifth time, but was not so at the later testings. Nos. 5 and 7 mentioned feeling nervous strain or exhaustion, and No. 8 "felt indifferent" when particularly tired. Three mentioned which Part they preferred, and in each case obtained better marks on that Part.

Several subjects were convinced, during the first few weeks, that the test was a different one on different occasions, or at least that several of the questions had been altered. Three subjects felt that they could not do their best at nine in the evening, after a day's work and an hour's lecture.

IV

SUMMARY AND CONCLUSIONS

(*a*) Test AH 4 was taken once a week up to ten times by W.E.A. volunteers after attending an evening lecture, during their Autumn Term, 1945. The results of those subjects who took the Test seven times or more have been considered in this Report.

(*b*) Twelve subjects took the test seven times; nine, eight times; seven, nine times; and two took it ten times.

(*c*) The time interval between each time of taking the test was, with one exception, one week, and was in no case more than two.

(*d*) The group was not a random sample of the population. As was to be expected from W.E.A. volunteers, it was a selected, intelligent, group.

(*e*) The general trend of scores, as shown by the means, is a steep upward rise followed by a levelling-out towards the end. This levelling-out does not take place in individual trends only when the maximum possible score has been reached, but apparently as each individual reaches his own maximum. It is not known if the lower scorers would continue to improve gradually if the test were given more often, or whether, as seems likely, they have reached their maximum. No subject ever obtained the maximum possible correct on the total score.

(*f*) Correlations between the testings were highly significant, both with one another and with the pool, so that it would appear that originally high scorers remain high and originally low scorers low, relative positions being kept very constant.

(*g*) Correlations between the two Parts over the eight testings produce an irregular curve with a general downward trend, falling steeply from the sixth time, at and after which the correlations are not significant. The trend of the correlations suggests that the importance of the part played by bias increases with repeated testings.

(*h*) The ratio of correct answers to questions attempted ranged between 82·5 per cent. (Part II, first time) and 91·6 per cent. (Part II, second time). Part I shows a slight fall in the ratio towards the end, and Part II shows a steady rise, but is always lower than the lowest ratio in Part I. Almost three times as many persistently wrong answers were given in Part II as in Part I.

(*i*) Once a subject has reached the end, he continues to do so on successive testings. In spite of this, the number of *correct* answers not only does not increase steadily after the maximum has been attempted, but it does not even remain constant, in every case fluctuating to some extent. In the course of the testing, every subject answered incorrectly some question which he had previously answered correctly.

(*j*) Introspective evidence obtained from the subjects suggested continued interest in the test, and a conviction by some that the test was not identical, from week to week.

These findings are suggestive but not by any means conclusive, since they are based on one small group only. The experiment should be repeated, if possible with several larger groups, of varying composition.

ON THE PROBLEM OF GENERALIZED OCCUPATIONAL TRANSFER EFFECTS IN RELATION TO STUDIES OF AGEING

BY

J. SZAFRAN and A. T. WELFORD*

(*From the Nuffield Research Unit into Problems of Ageing, The Psychological Laboratory, Cambridge*)

I

INTRODUCTION

ONE of the problems encountered in studying the effects of age on performance, comes from the fact that effects which may be regarded as due to age as such are normally bound up with any environmental influences and results of past experience there may be which are different for persons of different ages in the population being studied, and are thus associated with age, although they do not result from the ageing process itself.

The experimental results reported in this note, which were obtained in the course of some other work, illustrate what appears to be a rather striking example of an important type of influence of this kind, namely *generalized occupational transfer effects* associated with age. The finding was for us the more interesting because the transfer in question produced what at first sight looked very like a true ageing effect. We state it here because it draws attention to a recalcitrant problem of experimental control which concerns a number of studies of ageing at present being conducted both in this country and abroad.

It is obvious that specific transfer effects of special skills and special knowledge acquired in the course of occupational training and exercise will affect performance at particular tasks in which such skill or knowledge can be directly used. Occupational influences of this kind, are, however, relatively easy to control. They will become important only if the task used in an experiment is substantially similar to a task involved in a particular type of occupation, and to avoid them an experimenter has only to avoid tasks associated with occupation, or to introduce some relatively clear-cut occupational control: for instance, if he uses the interpretation of electrical circuits to study problem solving, he will have to control the extent to which his subjects are experienced at electrical work.

It is not so obvious how much or in what ways occupation can produce non-specific transfer effects which influence performance at tasks unlike those directly involved in the occupation itself and which are thus not matters of special skill or knowledge, but of more generalized abilities or behaviour tendencies. It is clear, however, that if occupational effects can influence performance in this way, the problem of experimental control becomes very much more complicated, because it is not possible to avoid this kind of effect by avoiding tasks associated with occupation, or to predict the sampling control needed from the task set. For assessing the degree of control needed to deal with occupational influences of this kind, it is necessary to know beforehand their probable extent and nature.

* The experimental work reported here was carried out by Mr. Szafran and by Miss G. C. Webb, a former member of the Unit. Mr. Welford has been responsible for directing the work and for writing the paper. This is based on data from experiments which are described in N.R.U.P.A. Reports Nos. 2 and 3, both dated June, 1948, and summarised in N.R.U.P.A. Report No. 1, dated March, 1948.

In the present case we were fortunate to light upon a seemingly important control more or less by accident, and to obtain an unusually uniform group of subjects by which the magnitude of its effect could be shown. It must be emphasised, however, that there was no means of predicting the need for this control, and that until more is known about the generalized effects of occupational activities and skills, a number of important controls of this kind are likely to be neglected.

II

METHOD

The subjects were required to throw 50 small loops of chain at a target made of intersecting strips of fibre-board arranged to form 7 × 7 three-inch square boxes, which was placed flat on the floor 8 feet away. They were instructed to aim at the centre box as the "bull" and to take their own time. The time taken to throw the 50 chains was recorded by means of a stop-watch, the experimenter explaining, however, that this was a routine measure of no immediate significance to the task in hand.

The numbers and mean ages of the subjects are set out in Table I. The subjects in the First group were recruited so that the subjects over 30 would be of a status that the civilians and service men under 30 might be expected to reach when they attained the appropriate age. The civilians under 30 were, with two exceptions, students working in various faculties of Cambridge University. The R.A.F. aircrew and the Naval ratings were volunteers posted to the Cambridge Psychological Laboratory who were taking part in service experiments. The civilians over 30 were recruited by one of the writers and a relative of his from among acquaintances. The Polish Army personnel which form the Second group came from two Polish Resettlement Corps camps.

TABLE I

NUMBERS AND MEAN AGES OF SUBJECTS

The mean age of the subjects in each age range is given in brackets under the number of subjects in the range.

	Age Ranges					
	15–29	30–39	40–49	50–59	60–69	70–82
First Group.						
Civilians	20 (22·1)	8 (35·3)	7 (46·0)	5 (58·4)	9 (64·1)	5 (74·6)
R.A.F. aircrew	13 (22·2)					
R.N. ratings	15 (21·3)					
All subjects in youngest age range	48 (21·9)					
Second Group.						
Polish Army Personnel ..	8 (19·6)	8 (35·1)	6 (44·8)	6 (54·2)		

III

RESULTS

We shall not here be concerned with the degree of accuracy attained by the different groups of subjects. For our present purpose it is sufficient to remark that the similarity between the two groups and the several age ranges as regards accuracy was far more striking than the differences.*

* The relevant figures are available for inspection at the Psychological Laboratory, Cambridge.

The point of main interest lies in the different times taken by the two groups to throw the 50 chains. The mean times are shown in Figure 1, the double line in which shows that, when all the subjects in the youngest age range of the First group are taken together and compared with the corresponding older age ranges, there is a rise in the time taken to throw as age increases. The difference between the youngest and the 30–39 ranges is significant at the 5 per cent. level (see Table II, *a*). It would, therefore, appear on this evidence that with age performance becomes slower, especially on passing from the twenties to the thirties. Such a rise is in keeping with the widespread belief that actions slow down as age increases.

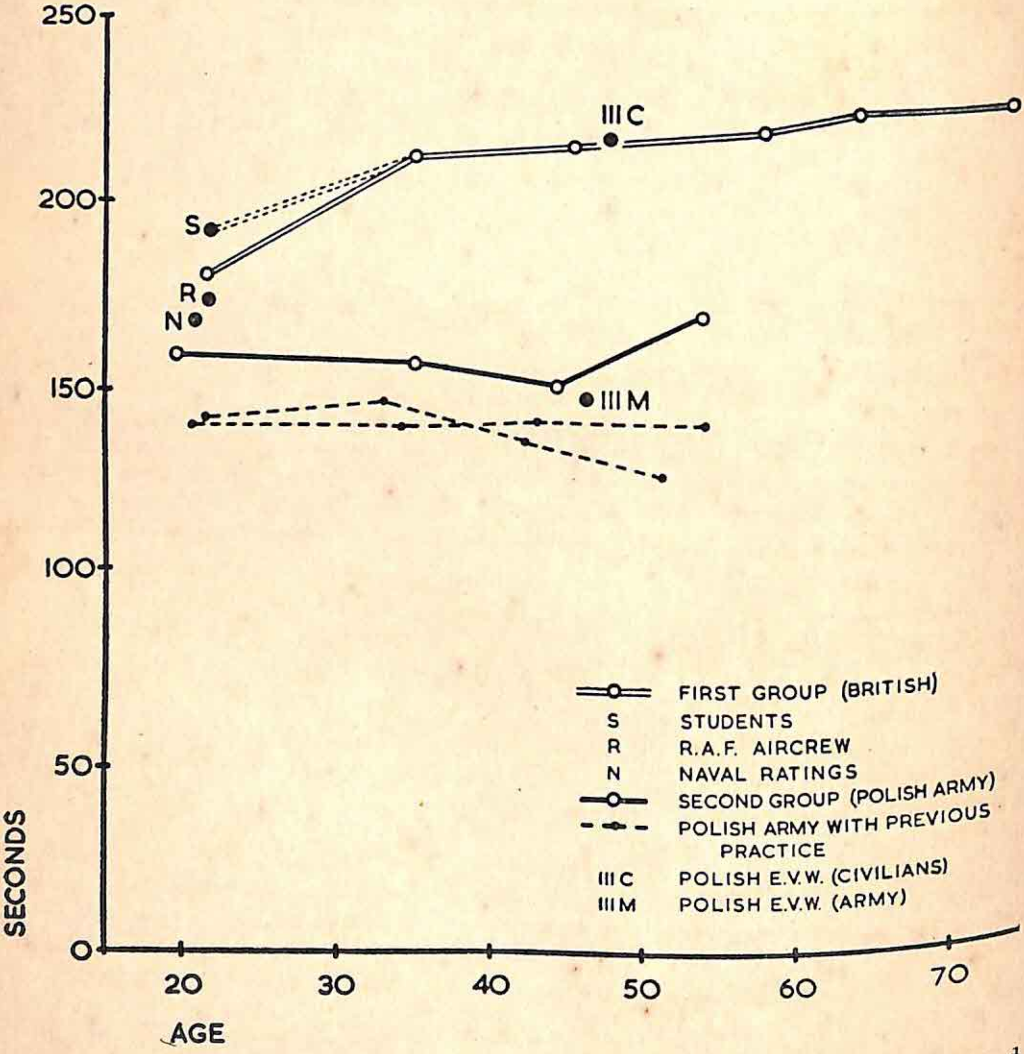


FIGURE 1

MEAN TIMES TO THROW FIFTY CHAINS (PER SUBJECT)

The times taken by the Polish Army subjects forming the Second group, indicated by the single line in Figure 1, present, however, a very different picture. Not only is the average time taken by the subjects in the youngest age range of this group shorter than that of the corresponding range in the First group, but the Polish subjects in their thirties and forties take, on the average, *less* time than do those in their late 'teens and twenties, and although those in their fifties take a little longer, the rise is not significant (see Table II, *b*). The rank correlation between age and time taken to throw is negligibly small ($\tau = +\cdot023$), and it is clear that there is no evidence of any consistent trend with age. The absence of any such trend is further evidenced by the results, shown by broken lines in Figure 1, from two groups of Polish army subjects of the same size and tested at the same time as the group we are considering, but who could not be included in it as they had previously thrown the chains under slightly different conditions.

TABLE II

SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS

	Groups compared	t	P
(*a*)	First Group. All subjects in youngest age range × civilians 30–39	2·04	$<\cdot05$
(*b*)	Second Group. 40–49 × 50–59	·89	$>\cdot3$
(*c*)	R.A.F. aircrew × civilians 30–39	2·35	$<\cdot05$
(*d*)	Naval ratings × civilians 30–39	2·44	$<\cdot05$
(*e*)	Students × civilians 30–39	1·22	$>\cdot2$
(*f*)	As (*e*), assuming the number of students to be raised from 20 to 48, their mean and variance remaining the same	1·31	$>\cdot1$
(*g*)	R.A.F. aircrew × Poles 15–29	·94	$>\cdot3$
(*h*)	Naval ratings × Poles 15–29	·53	$>\cdot5$
(*i*)	15–29. First and second groups servicemen × First group civilians	2·00	$=\cdot05$
(*j*)	30–39. Second group servicemen × First group civilians ..	3·29	$<\cdot01$
(*k*)	40–49. Second group servicemen × First group civilians ..	2·62	$<\cdot05$
(*l*)	50–59. Second group servicemen × First group civilians ..	2·64	$<\cdot05$
(*m*)	E.V.W. Group. Servicemen × civilians ($P = \cdot05$ when $t = 2\cdot23$)	2·18	$<\cdot1$
(*n*)	E.V.W. group servicemen plus Second group servicemen 40–49 × E.V.W. group civilians	2·95	$<\cdot01$

In seeking an explanation of the difference between our First and Second groups it seemed significant that the subjects in the latter were all army personnel, while those in the former were all civilians except in the youngest age range which contained the R.A.F. aircrew and Naval ratings. Means were therefore calculated separately for the aircrew, ratings and students in the youngest age range of the First group, and are indicated in Figure 1 by the letters R, N and S respectively. It will be seen that the students are slower than the servicemen, and while the aircrew and ratings are still significantly different from the civilians in their thirties, the students are no longer so (see Table II, *c*, *d* and *e*). It is true that some reduction of significance is to be expected in this last case as the number of subjects used in the comparison has been reduced by the removal of the servicemen, but it is easy to calculate that even had the number of students been as great as that of the whole youngest age group, significance is still unlikely to have been attained (see Table II, *f*). If now, we combine the aircrew and ratings with the youngest age range of Poles (they are not significantly different—see Table II, *g* and *h*), we obtain a *service group* consisting of the aircrew, ratings and members of the Second group, and a *civilian group* consisting of the students and members of the First group over 30. In neither of these groups so formed is there any significant trend with age, and although a small non-significant rise remains between the students and the civilian subjects in their thirties, it must be borne in mind that most of the students had been demobilised from the services within the previous two years and might reasonably be expected to show some continuing similarity to servicemen.

The civilians and service groups are, however, consistently and significantly separated from each other in each age range (see Table II, *i-l*), the civilians being, on the average, some 30 per cent. slower than the servicemen. The indication is that there is some rather consistent difference between civilians and servicemen as such in their preferred speed of work at the task set by our experiment. In view of the fact, however, that all the servicemen over the age of 30 were Poles, it seemed possible that at least a considerable part of this difference might have been due to some national difference between Poles and British, or to some reaction by the former to the difficulties experienced by displaced persons. Because of this possibility, a further group of Poles at a camp for European Voluntary Workers recently arrived from the continent were tested in order to provide a civilian group more strictly comparable with the Polish servicemen. All the Poles in the camp between the late thirties and middle fifties were tested. On enquiry being made after testing as to previous occupation, eight out of a total of twelve confirmed that they had been civilians all through the war, while it was discovered that the remaining four had until recently been in the army. The means for these eight civilians and four servicemen are indicated in Figure 1 by the symbols III C and III M respectively. The closeness of III C to the mean of the civilians in the 40–49 age range of the First group, and of III M to that of the servicemen in the corresponding age range of the Second group is very striking. While the difference between the means of these eight civilians and four servicemen just fails to attain significance (see Table II, *m*), this is clearly due to the very small number of the latter. If these servicemen are taken together with those in the 40–49 age range of the Second group, and the combined group of twelve subjects so formed is compared with the eight Polish civilians, the difference is significant at the 1 per cent. level (see Table II, *n*).

The evidence therefore indicates that the various age ranges we have tested do not differ in their preferred speeds of work at the task we used, but that there is a marked difference between the preferred speeds of civilians and servicemen. If this is so, it becomes clear that the rise with age in the time taken to throw found in the First group as originally constituted was mainly due not to age as such, but to the fact that the youngest age range consisted largely of servicemen and men recently demobilised.

IV

DISCUSSION

Our results do not in themselves contain any definite indication of the influences in service and civilian life which might explain the differences between the performance of our service and civilian groups. It seems pertinent to remark, however, that it is unlikely that the superior speed of the servicemen is due to practice at such games as darts, because Polish soldiers seldom play darts or other games of this kind. Nor can there be any question of the older civilian subjects being slower because they were uninterested in the task—all were clearly enthusiastic. Much more significant for explaining the differences between our groups would seem to be the contrast between the demands of service training and civilian work. The stress laid by service training, in contrast to many civilian occupations, upon speed at carrying out certain movements and manipulations makes it plausible to suggest that the greater speed on the part of our servicemen is due to a mode of performance adopted as a result of the demands of service training having become generalized and having thus influenced performance at the present task, although this can scarcely be said to bear any very close resemblance to any operation included in the training itself. Some support for this view is contained in the fact that the R.A.F. aircrew take, on the average, a little longer than the Naval ratings, and that both take a little longer than the Polish army subjects in the youngest age range. While some parts of the training of all the services lay stress on speed, this stress is probably greatest in the Army and least among aircrew, whose training must be concerned not only with rapidity of action but also with accuracy in carrying out highly skilled operations.

Whether or not this is the cause of the difference in speed between our two groups of subjects, the finding that a difference of occupation appears to be associated with a different manner of performance at a task which is not associated with occupation, raises in acute form the problem of adequate sampling in studies of ageing. We, as we have said, were fortunate for the interpretation of the results of our First group in obtaining a second, highly uniform group of subjects in which this occupational influence seems to have been effectively controlled. Our chance success in this case only serves, however, to emphasise the general problem, namely:

(i) If a "horizontal" study of ageing is attempted on the basis of a representative sample of the contemporary population, it is clear that any occupational or other such influences associated with age will be entirely uncontrolled.

(ii) The very much more difficult "vertical" type of study which follows a number of individuals over several decades, is no better at achieving adequate control than is the "horizontal" type.

(iii) In "horizontal" studies it is often not possible to overcome this difficulty by holding occupation constant, for if this is done the subjects in different age ranges cannot be satisfactorily equated in other ways. There is, for instance, a normal expectation of transfer to higher, or at least different, grades of work with age, and if we sample those of different ages who are all occupied in the same work, we shall be taking our older age groups from among those who have failed to obtain such normal transfer—an obviously undesirable procedure.

The long-term solution of this problem would seem to be the building up of a sufficient body of knowledge for the formulation of principles regarding the generalized transfer effects of occupation and other such variables upon performance. Until these principles are understood, however, it is clear that the only practical solution will often be for the experimenter to recognize that influences associated with, but not due to age are likely to affect the results of his investigations, and to interpret such results with appropriate caution.

V

SUMMARY

With a group of subjects of various ages chosen in such a way that the older might well have been the fathers or elder brothers of the younger, it was found that those over 30 were, on the average, slower than those under that age in performing a relatively easy skilled task. This difference appeared, however, to have been due not to age as such but to the inclusion of a high proportion of younger subjects who were serving or recently discharged members of the Forces—a necessary procedure when taking a representative sample of the present-day population. The differences thus appeared to be due to the effects of some influence or influences associated with age in our sample which could be classed as occupational, although the nature of the task was such as to preclude an explanation in terms of the direct use of special occupational skills or knowledge. This finding illustrates the fact that generalised occupational and other environmental influences are inevitably associated with age in any representative sample of the population, and constitute a severe problem for experimental control and sampling in studies which attempt to deal with the primary effects of ageing in a fundamental way.

VI

ACKNOWLEDGMENTS

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THE EFFECT OF KNOWLEDGE OF RESULTS ON LEARNING AND PERFORMANCE

III. THE INFLUENCE OF THE TIME INTERVAL BETWEEN TRIALS

BY

S. J. MACPHERSON, VALERIE DEES, and G. C. GRINDLEY

(From the Psychological Laboratory, Cambridge)

I. *Introduction* (pp. 167–168). II. *Experimental Method* (p. 168). III. *Description of experiments and results* (pp. 168–173). IV. *Discussion* (p. 173). V. *Summary* (p. 174). VI. *References* (p. 174).

I

INTRODUCTION

IN the preceding paper of this series (Macpherson, Dees and Grindley, 1948), some of the characteristics of K (knowledge of results) and N (no knowledge of results) performance in simple skills were described. By "K" was meant an almost immediate visual presentation on a scale, showing the subject whether he had "overshot" or "undershot" a target, and *by how much*. By "N" was meant that there was no such visual presentation. In this paper, we shall discuss the influence of the time interval between successive trials under both sets of conditions.

The problem of the influence of time intervals is of considerable interest, since the bulk of the evidence on the *learning* of a variety of tasks suggests that up to fairly long time intervals (several minutes at least) greater *spacing* of trials is advantageous (cf. Woodworth, 1938, Chapter 9). On the other hand, during "habituation" or "extinction," the bulk of the evidence suggests that greater *massing* of trials leads to more rapid deterioration of performance (cf. Hilgard and Marquis, 1940, Chapter 5). Thus if we are justified in comparing K conditions with "reinforced" learning or performance and N conditions with "extinction" or "habituation (as has been suggested in previous papers of this series) we might expect that, within limits, the longer the interval between trials the more rapid would be the improvement under K conditions, and the slower would be the deterioration under N conditions.

Theoretically there are many possibilities. We may take, as examples, two extreme views about what would be expected. On the one hand, if we assume that when a subject is attempting to reproduce a previous movement (made under K conditions) he is dependent on a "memory trace" which decays with time on a kind of Ebbinghaus curve of forgetting, we should expect his learning or performance under K conditions to be better the shorter the time interval since the previous trial. Under N conditions, we should expect his performance to depend merely on the time that has elapsed since the last K trial. On the other hand, if we take the type of theory originating with Pavlov and since developed in so much detail by Hull (1943), we should expect that the performance of any action sets up a state of "internal inhibition" or "reactive inhibition" which dissipates with time (cf. Hull, loc. cit., p. 299). Hence we might expect that in learning under K conditions and in the maintenance of performance, long intervals would be more advantageous than short ones, since some of the "internal inhibition" will have disappeared during a longer interval. For the same reason, one would expect shorter intervals to produce more rapid "extinction" under N conditions, since there will then be a greater accumulation of "internal inhibition." These theories have been stated here in greatly oversimplified form; but it will be clear that the two types of theory imply entirely different results of the effect of time intervals.

The present paper discusses the results found with varying time intervals in the tasks described in the previous paper (and in certain modifications of these tasks) under both K and N conditions. As in the previous paper the quantitative results are not given in full detail, for reasons of space, but are being kept and are available for inspection.

II

EXPERIMENTAL METHOD

In most experiments hitherto reported on the effect of massing and spacing of trials, the general procedure has been to take a group of subjects with a short interval between trials and compare their rate of learning with that of another group with a longer interval. Precautions are, of course, taken to equate the two groups. In the present experiments, however, it was felt that with such wide individual scatter between trials, and also between the average scores of different subjects, this method would be unduly laborious. It was, therefore, arranged in most of these experiments, that each subject was given a series of trials with *unequal* intervals, e.g. in one of the experiments described below, the intervals were alternately 1·0 second and 7·0 seconds; in another the intervals were successively 1·8, 5·5 and 20·0 seconds and then the whole cycle was repeated. (In every case, the signal for making the movement was a short sound from a buzzer and the spacing of intervals between these signals could be arranged as desired by means of a rotary contact.) The effect of massing and spacing of the trials was calculated from the average amount, and also the number of cases, of improvement or deterioration during the intervals of different lengths. This general method has a very great advantage over the more conventional one, in that it allows us to study the effect of different time intervals *on each subject at every session*, without any necessity for equating the groups of subjects. In each single trial of such a cycle, the subject's error was recorded.

III

DESCRIPTION OF EXPERIMENTS AND RESULTS

A. "Knob-turning" Experiment.

Owing to the difficulties described in the previous paper of regulating the time interval in the modified form of Thorndike's Line Drawing Experiment, another experiment was devised. In this, the subject was required to turn a knob through a given angle rather than drawing a line of a given length, and the apparatus was arranged so that he could be shown his results immediately by means of a light on a scale or, of course, this knowledge could be withheld for N conditions.

Description of apparatus. The subject sat looking at a scale about eighteen inches from his eyes and held a knob about two inches in diameter with his right hand, the knob and hand both being out of sight. On the signal from the buzzer, the subject was required to turn the knob clockwise and then return it to zero in one continuous movement. When he had returned to zero, under K conditions, a spot of light appeared on the scale, showing him whether he had turned too much or too little. Under N conditions no spot appeared, but in both K and N trials the movement of the hand worked an ink writer which enabled the experimenter afterwards to measure exactly the form and extent of the movement made. In fact, a turn of about 20° was required to give a "bull's eye" on the target, and the accuracy of the movement could be measured by the ink writer to about 2 per cent.

Results under K conditions. A number of groups of subjects were tested with different arrangements of time intervals between their responses. We may take as typical one group of 21 subjects whose intervals were 1·8, 7·5 and 33·0 seconds, the whole cycle then being repeated 10 times on the first three days and another 5 times on the fourth day, after which they were changed to N conditions. (One third of the subjects began on each day with each of the three intervals mentioned.)

During the first 9 K trials, i.e. 3 complete cycles of the time intervals considered, there was a very slight but insignificant tendency for the longer intervals to be better. This was during the period when the subjects were, on the whole, "learning" the task, as shown by their scores, and "getting used to" the apparatus and arrangements.

In their subsequent K performance these subjects showed a slight but hardly significant tendency to be better with the shorter intervals.

The number of cases in which there was improvement or deterioration from the previous trial with each interval is shown in Table I.

TABLE I

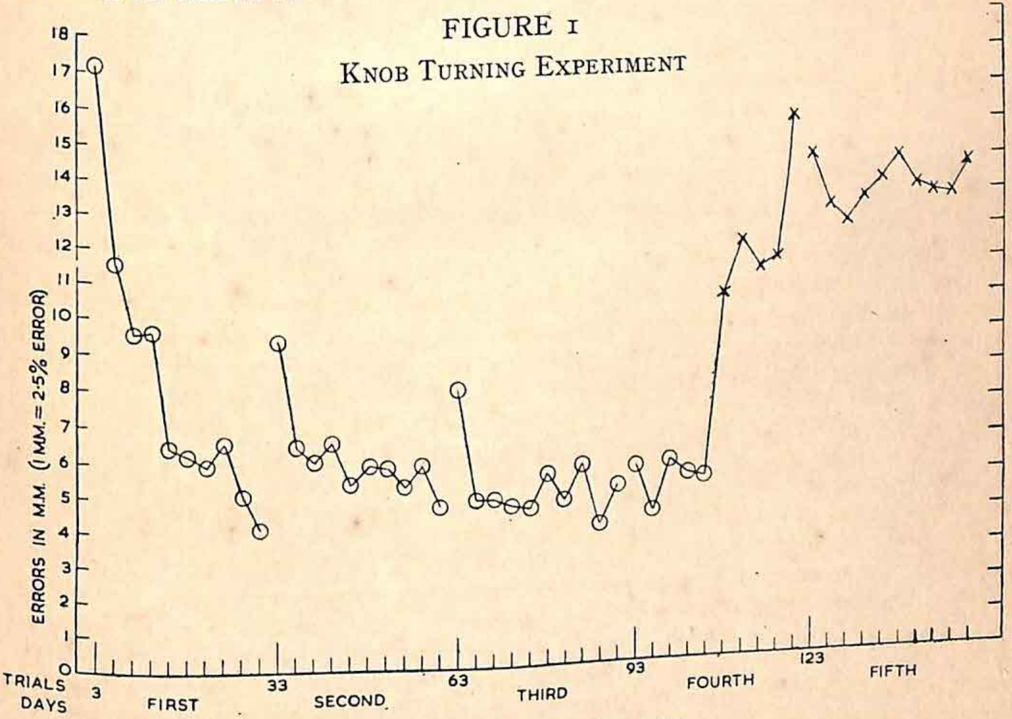
Time Intervals (seconds)	1·8	7·5	33·0
Cases of improvement	342	291	291
Cases of deterioration	276	313	321

Cases where there was no change in error are omitted.

If the *amount* of improvement or deterioration is taken into account, the results are not very different, i.e. with these intervals the tendency is only very slightly in favour of the shorter times.

FIGURE 1

KNOB TURNING EXPERIMENT



○ = With knowledge of results.
× = Without knowledge of results.

Each point is the average of 3 trials for 12 subjects.

The fact that during the 33-second intervals there was an actual deterioration in performance obviously does not mean that the task would not be learnt if all the intervals were as long as this; it merely means that, on the average, the improvement during the short intervals was such that there was bound to be a comparative recession when the interval was made long enough to allow time for forgetting.

Another group of 12 subjects given intervals of 1·8, 5·5 and 20·0 seconds, showed similar tendencies.

This was true in all these experiments: there was never a very marked effect of time intervals between about 2·0 and about 30·0 seconds. But the tendency in all the groups tested appeared to be in the same direction. The subjects required a few trials to "get used to" the apparatus, after which they were slightly better when the interval was short.

A very much more striking effect was found when we considered the influence of much longer time intervals, e.g. 24 hours. For instance, Figure 1 shows the learning curve for the 12 subjects just mentioned. In this curve, each point represents the mean error in a whole cycle of three readings (with intervals of 1·8, 5·5 and 20·0 seconds).

It will be seen that while there is a progressive improvement in performance during the course of the trials in the first and second days, there is also a marked regression during the first and second 24-hour intervals, but much less regression during the third 24-hour interval. Similar results were found with other groups of subjects in this and also in the other experiments described later. What seems to happen is that there is at first a very marked deterioration during a 24-hour interval, but when the performance has become more "stabilized," usually, in these experiments, after 3 or 4 days, the deterioration overnight is much less.

Results under N conditions. In the middle of the trials on the fourth day, the subjects were suddenly changed to N conditions, the time intervals remaining the same as before, and these arrangements were continued during the 5th day also under N conditions.

In this experiment, as in those described in the previous paper, the deterioration was nearly always in the direction of overshooting the target. For instance, while under K conditions the subjects usually acquired a performance in which their shots were about equally scattered on either side of the target, under N conditions they soon began to overshoot in about 80 or 90 per cent. of the trials.

Table II shows the number of cases of improvement and deterioration with each of the time intervals considered for the group of 21 subjects already mentioned, under N conditions.

TABLE II

Time Intervals (seconds)	1·8	7·5	33·0
Cases of improvement	102	138	172
Cases of deterioration	192	163	122

It will be seen from Figure 1, that for the 12 other subjects whose results are plotted, there was only a very slight change in the average error during a 24-hour interval, i.e. between the 4th and 5th day. In fact, it was found with other groups of subjects as well, that under N conditions (if the subject had already deteriorated to a fairly low level of performance) a 24-hour interval had no predictable effect. But it was still true that, with the shorter intervals we have been considering, massing produces more deterioration than spacing.

B. *Time and Pressure Experiment.*

The results suggested that, under K conditions, learning was more rapid and the level of performance was higher when the interval between trials was short than when it was long. (For this purpose, 10 seconds was taken as a short interval and 60 seconds as a long interval, and subjects who had attained a fairly steady level of performance at one interval were then switched to the other). On the average, the subjects who had been working on short intervals deteriorated when switched to long intervals, and those who had been working on long intervals improved when switched to short intervals.

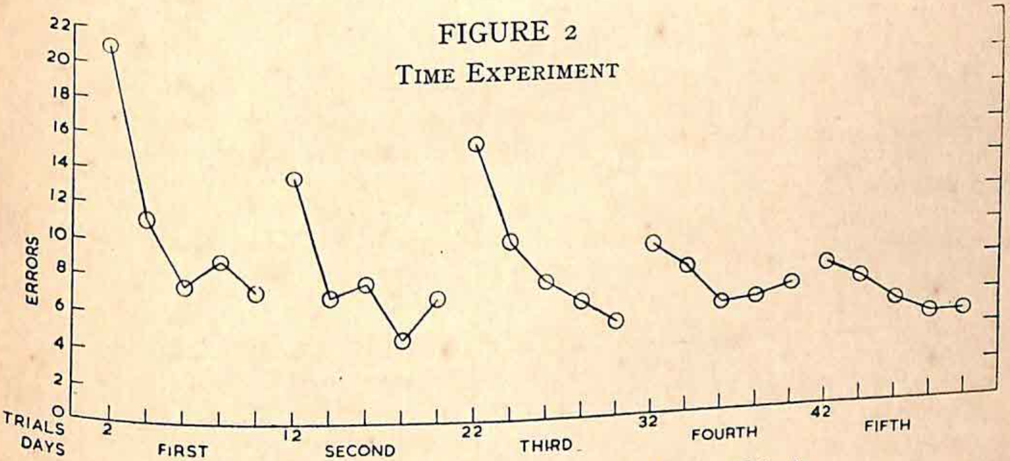
All the subjects preferred the short interval because they were less "bored." The evidence of a change in level of performance as between one interval and the other is only suggestive and is not statistically convincing with such a small number of subjects.

C. *Time Experiment.*

Results with original apparatus. With the apparatus described in the previous paper, the period of swing of the galvanometer was such that it was not possible to experiment with time intervals of less than about 12 seconds. Some experiments were made comparing an interval of this kind with an interval of 60 seconds between trials. The results were not very convincing, and therefore need not be described in detail. But the general tendency was that under K conditions the shorter interval was better for learning or maintaining the performance and, under N conditions, the shorter interval led to more rapid deterioration. Thus the results, though not important by themselves, tend in the same direction as those of the other experiments described here. Moreover, the results with an interval of 24 hours under K conditions, show a very marked effect, as is illustrated in Figure 2.

FIGURE 2

TIME EXPERIMENT



Each point is the average of 2 K trials for 10 subjects.

Shorter time intervals. In order to overcome the difficulties of the use of a normal galvanometer, an experiment was made with an entirely different type of apparatus. In this the subject looked through a telescope and saw a scale on which the "bull's eye" was clearly marked. The needle of what was in fact a dismantled milliammeter swung rapidly across the scale and then back to zero, the distance of the swing depending on the time for which he pressed a morse key. The correct time for hitting the "bull's eye" was about 1/10 second. The milliammeter could be short-circuited for N conditions, but in all cases the time of pressure on the morse key was recorded to within 1/100 of a second by a recording chronoscope designed by the late Major H. A. Holden, R.A.

With this apparatus, it was possible to take readings at one per second or even more frequently; but it will be clear to anyone that to make a movement, observe the results of it and then correct in the appropriate direction for the next movement, at this speed, is asking a little too much of the human organism. In addition some of the subjects found difficulty in pressing the key for such a short time and they could hardly undershoot the target even when they were trying to do so. With those subjects who were sufficiently nimble to be able to undershoot the target the general tendency was, that during the first few K trials (when they were "learning" and "getting used to" the apparatus) a 1-second interval was too fast for them; but after about 12 trials, an interval even as short as this was better than one of 7 seconds. During N trials there was more deterioration during a 1-second interval than there was during a 7-second interval.

D. *Pressure Experiment.*

Results under K conditions. The same apparatus was used as was described in the previous paper. No shorter intervals than 10 seconds could be used, as the subjects varied from between 3 to 9 seconds for the time they took to complete the movement. This had the disadvantage that the interval between trials could not be exactly controlled by the interval between signals from the buzzer.

On the other hand, in an unhurried task of this nature, the subject has no difficulty in assessing his results between successive trials; hence there is no tendency to confusion during the initial period of "getting used to" the apparatus. This experiment, in fact, showed the influence of time intervals more clearly than any of the others described above. For instance, a group of 19 subjects were taught the task under K conditions with alternate intervals of 10 and 60 seconds. Table III shows the number of cases of improvement and deterioration during the first 6 pairs of readings.

TABLE III

Time Interval (seconds)	10	60
Cases of improvement	66	22
Cases of deterioration	23	46

This effect is obviously a very large one, and it is equally striking if we consider the average *amount* of improvement or deterioration rather than the number of cases. These results also agree with the reports of many of the subjects that they preferred a short interval because during that time they could "hold the feel" of the correct movement, and also they had no time to become "bored" or let their attention wander. The experiment also showed the occurrence of marked "forgetting" during a 24-hour interval, as did the other experiments described above.

Results under N conditions. On another day these same 19 subjects were changed to N conditions and had 15 pairs of trials with the same time intervals as before. (As described in the previous paper, most of the subjects tended to overshoot, and there were many trials where the needle was completely off the scale.) The following table shows the total number of individual improvements or deteriorations where these could be observed. (Obviously when there were two successive shots, both of which were off the scale, this pair could not be included.)

TABLE IV

Time Intervals (seconds)	10	60
Cases of improvement	61	90
Cases of deterioration	100	57

This result is again clearly significant, and confirms the results of the other experiments described here.

IV

DISCUSSION

The apparatus and the method of taking readings in the experiments described in this paper, were generally very similar to those described in the previous paper of this series (Macpherson, Dees and Grindley, loc. cit.), to which reference must be made for experimental details. We were, however, concerned here primarily with the problem of the influence of the time interval between trials in tasks of this kind. It will be obvious from the previous paper that some of the results reported there made the study of the effect of time intervals far from straightforward. The main difficulties were (*a*) the very large scatter between successive readings for the same subject, and also between the average error for different subjects, (*b*) the persistent tendency towards overshooting or undershooting in some experimental conditions, (*c*) the large effect of anticipation of knowledge of results, and (*d*) the tendency towards long periods of good or bad performance in certain experiments.

Nevertheless, it may reasonably be claimed that the technique described in the present paper (cf. sect. II) of using successive intervals which were deliberately made *unequal* overcame some of these difficulties. A conceivable objection to the present technique would be that the more conventional method of comparing groups who had long intervals with other groups who had shorter intervals might lead to quite other results, because of the different "incentive value" of the two sets of conditions. On this we have at present no evidence.

As will be seen, the results fall into the same general pattern for all the experiments. If the initial trials are very closely massed or the apparatus is such that the subject has some difficulty in "getting used to" the arrangement, there may be a period at the very beginning when short intervals are less beneficial than somewhat longer ones (e.g. 10 seconds may be better than 1 second). But, if the subject has mastered the arrangement, the shorter the interval the better for his learning and level of performance under K conditions. This appears to be due, partly to the fading of a "memory trace" with time (e.g. some subjects report that they "lose the feel" of the movement with long time intervals), and partly to an "incentive effect" (e.g. some subjects report that they "become bored" with long time intervals).

These effects of different time intervals under K conditions are much more striking when we look at the very marked "forgetting" which occurs during a really long interval (e.g. of 24 hours) than when we compare the effect of a few seconds with that of 30 or 60 seconds. The results are, of course, quite contrary to those usually reported with more *complex* tasks (cf. Woodworth, loc. cit.).

On the other hand, under N conditions, it is uniformly found that short intervals lead to greater deterioration than long intervals; but there is no uniform and predictable effect of a very long interval such as 24 hours.

Hence we are left in the paradoxical position, that the results for learning and performance under K conditions appear to agree with a "memory trace" type of theory; whereas the results under N conditions appear to agree with an "internal inhibition" type of theory. This seems so unlikely that one is tempted to look further into the whole question. The two theories to which we have referred are, of course, extreme theories, and it seems likely that there is some truth in each of them. In considering the present experiments, it should be remembered (*a*) that under K conditions, we seem to be dealing with a mixture of "memory traces" and "incentive effects," and (*b*) that under N conditions, one of the characteristics which might be expected on an "internal inhibition" theory, namely, a large degree of spontaneous recovery during a 24-hour interval, does not usually occur.

Another possible line of approach to the whole problem would be in terms of "interference" and "transfer" between one movement and the next, and some experiments to test this type of theory are now in progress.

V

Summary

1. Some experiments have been made to test the influence of the time interval between trials on the accuracy with which subjects could perform various simple movements, both with and without visual knowledge of results.

2. It was found that in general, a shorter interval (down to about 1 or 2 seconds) led to greater accuracy than a longer interval when knowledge of results was given.

3. When knowledge of results was removed, shorter intervals led to more rapid deterioration and a lower standard of performance than longer intervals.

4. Some of the implications of these findings in relation to current theories of learning are briefly discussed.

We wish to express our thanks to Sir Frederic Bartlett for many suggestions, and to the Rockefeller Foundation for financial assistance.

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REACTION TIME FOR THE AMENDMENT OF A RESPONSE

BY

W. E. HICK

(*From the Medical Research Council Applied Psychology Unit, Cambridge*)

I. *Introduction* (p. 175). II. *Apparatus and Method* (pp. 175–176). III. *Results* (pp. 176–178). IV. *Discussion* (p. 178). V. *Summary* (pp. 178–179) VI. *References* (p. 179).

I

INTRODUCTION

AN experiment by Vince (1948), described as a measurement of kinaesthetic reaction time, seemed to provide an exception to the usual findings with regard to the psychological refractory phase. The task was to move a handle a prescribed distance against a light spring, at a pre-arranged auditory signal. When the spring stiffness was unexpectedly greater than usual, the onset of the handle movement was delayed by about 0·16 second, and this was taken to be the kinaesthetic reaction time (although Vince did point out that the visible failure of the display pointer to move might equally well have been the stimulus for increasing the muscular force). In any case, there were two stimuli, separated by an interval approximately equal to the reaction time to the first (auditory) stimulus. Therefore, according to all other data on the so-called refractory phase (e.g. Telford, 1931; Hick, 1948; Vince, 1948*a*), the second reaction time should have been at least twice as great as the value found.

As it seemed possible that this kind of amendment to a response might be a special case, and one difficult to account for on present theories, it was decided to repeat the experiment, in a slightly modified form.

II

APPARATUS AND METHOD

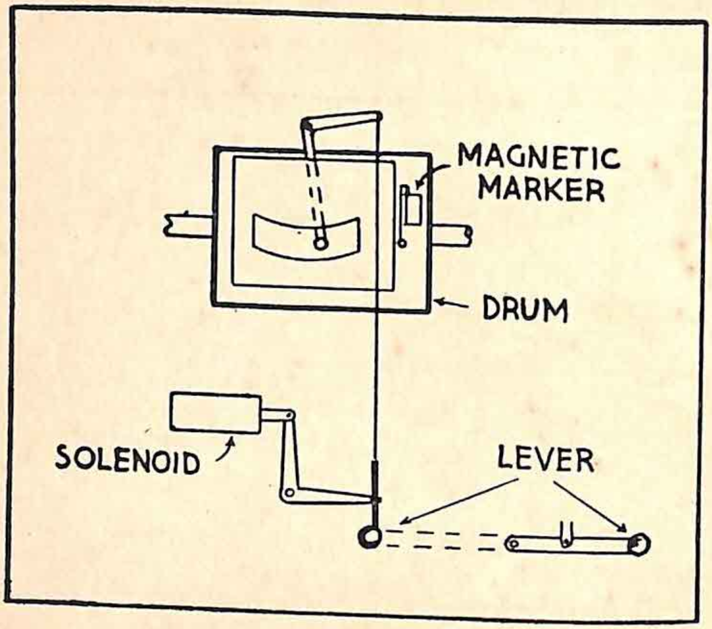
The apparatus is illustrated in Figure 1. The control handle was a light vertical lever which, when pulled backwards (against a weak spring) moved a pen transversely on a horizontal rotating drum. The lever was also linked to the sliding core of a solenoid, the energizing of which provided the increased resistance. When the solenoid was not switched on, the load to be overcome was about 3 oz. at the beginning of the movement, increasing to about 4 oz. at the completion of it. With the solenoid on, the load started at about 20 oz. and decreased slightly as the movement progressed.

The recording pen was visible to the subject, and he was instructed to move it as quickly as possible to a marked position, on receipt of the stimulus, and then return it at leisure to the starting point. On those occasions when the solenoid was to be energized, the current was automatically switched on by the first millimetre or so of the lever displacement. This prevented the subject from being forewarned of the increased load. Once energized, the solenoid remained so for a period long enough to allow of the completion of the movement, even if the lever should be momentarily returned to the zero position during this period.

The stimulus was auditory, being the click of a magnetically-operated pen, which thus also recorded the time of occurrence of the stimulus. The sequence of stimuli was generated automatically by a mechanism working on the punched-tape principle.

The intervals were irregular, but averaged about 3·5 seconds. Not quite 25 per cent. of the stimuli were accompanied by the "solenoid on" condition, these cases being distributed at random in the sequence.

FIGURE 1



Three subjects (research workers) were used, and three different methods of operating the control were tried. In all cases, the subject was seated in front of the apparatus, with the lever at a little above elbow height. The required displacement of the top of the lever was about one inch. In the first method (called "arm-pull" in the results), the top of the lever was held in a natural way in the finger tips and pulled backward by a movement of the whole arm. In the second method (designated "wrist-pull"), the movement was made by flexing the wrist rather than moving the whole arm. In the third method (called "twist") a different part of the mechanism was grasped, which required the movement to be similar to twisting a knob with the fingers.

The purpose of these different methods was to provide different amounts of effective inertia, for a reason which is mentioned below, in the discussion of the results.

III

RESULTS

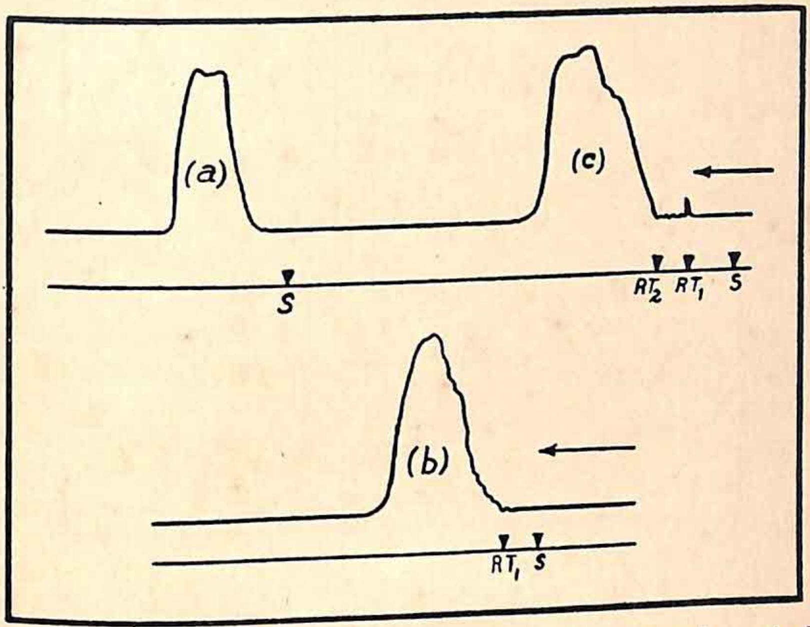
Records of typical movements are shown in Figure 2. They could be divided roughly into three types:

(*a*) Normal movements without the extra resistance.

(*b*) Movements not delayed in starting by the extra load, but showing more or less irregularity or slowness. These cases, and all in which the second reaction time could not be clearly distinguished, are classified as "Not Measurable" (N.M.).

(*c*) Cases in which the movement has begun, but the solenoid has then come into action and returned the lever to zero for a short time, after which a fairly clear-cut movement has been executed. The second reaction-time (RT2) is the time between the abortive movement and the beginning of the main movement. These cases have RT2 either greater or less than RT1 (the period between the auditory stimulus and the abortive movement).

FIGURE 2



The numbers of responses falling into the various classes are shown in Table I.

TABLE I

	Subject	*RT2 > RT1*	*RT2 < RT1*	*N.M.*
Arm-pull	A	9	16	16
	B	0	0	12
	C	16	2	3
	Total	25	18	31
Wrist-pull	A	23	6	3
	B	13	0	0
	C	18	0	0
	Total	54	6	3
Twist	A	28	1	0
	B	18	2	0
	C	17	3	5
	Total	63	6	5
Grand Total . .		142	30	39

It can be seen that with the first condition ("arm-pull"), there was no measurable second reaction time in the majority of cases, and when it was measurable it was quite frequently less than RT1. In the other conditions, however, RT2 was nearly always greater than RT1, the preponderance being significant at better than the 0·1 per cent. level.

From a three-by-three table of the totals the marginal frequencies being fixed, it appears that the three conditions differ at better than 0·1 per cent. level, the difference being obviously due to the "arm-pull" condition. Excluding the latter, the mean RT2 is 0·304 second, while the mean RT1 is 0·212 second.

It is evident from inspection of Table I that the subjects did not differ significantly among themselves when performing the task by the "wrist-pull" and "twist" methods, but the individual differences in the "arm-pull" case are significant at better than 0·1 per cent. level.

IV

Discussion

The results of this experiment lead to two main conclusions:

(1) Measurements of the reaction-time for amending a muscular force which has failed to be effective cannot be taken at their face value, when obtained by this method. The figures observed are liable to be far too small.

(2) There is no reason to doubt that the psychological refractory state makes its appearance in this, as in all other known cases, contrary to the finding of Vince (loc. cit.).

The mechanics and physiology of the situation admit two factors as possible causes of the apparently small or absent RT2 in the "arm-pull" condition; they probably account also for Vince's findings. One is that the mass of the arm as a whole is elastically coupled to the control handle. How much of the elasticity effect is due to the soft tissues of the fingers and how much to the fact that the arm and hand form, not a rigid body, but a complicated chain of levers, elastically-controlled, is impossible to say. The fact remains that a large part of the mass can acquire an appreciable velocity without the handle moving. Hence, when the load is unexpectedly large, momentum alone may suffice to overcome it sooner than could be done by any psychological readjustment.

The other factor is the use of antagonist tension, which is a device commonly employed when it is desired that a movement shall be carried through regardless of unpredictable variations in resistance that may be encountered. Again, it is impossible to say how much, in this case, depends on the increase of Young's Modulus when a muscle is contracted isometrically (Cathcart *et al.*, 1929, p. 96), and how much on the development of a more sustained net force, instead of the brief impulse associated with "ballistic" movements (Sperry, 1939, *et al.*). The involvement of quick-acting spinal reflexes is also a possibility.

V

Summary

1. Reaction times were measured in a task making moderately accurate movements against a load which was usually light, but occasionally unexpectedly heavy, so that the movement could not proceed without further force being applied.

2. When the movement is so performed as to minimize the effective inertia, the time between the first attempt to move and the beginning of the movement proper is about 0·3 second.

3. When the effective inertia is large, the above interval is much smaller or (often) indefinable.

4. The findings are consistent with other data concerning the refractory phase, and show that the case of amending a response already started is not, as had been thought, an exception.

VI

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ESTIMATION OF THE POSITION OF A TACTILE STIMULUS IN A REPEATED AUDITORY PATTERN

BY

N. T. WELFORD

(*From the Psychology Laboratory, Cambridge*)

I

Introduction

The accuracy of judgments about the temporal relationships of stimuli presented to different senses, has been the subject of enquiry, from time to time, since Bessel's study of the "personal equation" in star-transit observations. The work has been mainly on the visual auditory combination, modelled on the star-transit observation method, with a single visual stimulus and a repeated auditory stimulus, and on non-repeated pairs of stimuli of various kinds.

Hartmann (1858) performed an artificial star-transit experiment in which both the visual, and the auditory, stimuli were repeated at the same regular rate, so that the subject was presented with a regular series of judgments all with the same time relationship. This, he found, led to considerably increased accuracy in judging the time-relationship of the two stimuli.

The present investigation similarly involves a judgment of time relationships between two regular rhythms, but here they are in the auditory and tactile sensory modes. The experiment is based on a judgment commonly required in clinical medicine, namely the timing of the heart sounds. This consists of listening to the beats of the heart, in which can be distinguished a first and a second sound, and at the same time feeling the pulse at the wrist or neck. This felt pulse occurs at the end of the first sound and is classically the method of distinguishing the sounds from each other. It is found by many observers that distinguishing the two sounds by timing from the felt pulse is not easy and is accompanied by much subjective uncertainty, especially when the heart is beating faster than usual and the sounds become more evenly spaced. Although the experiment was undertaken with consideration of a particular clinical problem, the results are also considered from a more general point of view.

II

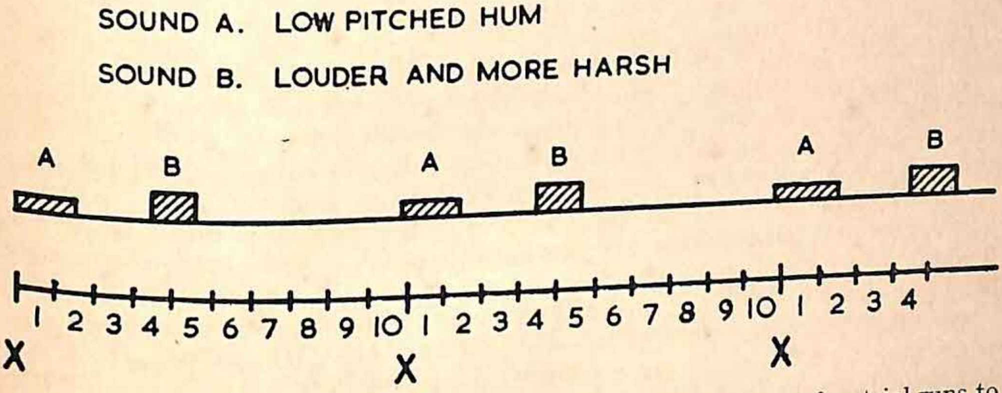
Method

Apparatus. The apparatus consisted of a motor, driving, through a three-speed gear box, a shaft with three cams each of which made an electrical circuit once per revolution. Two of these cams were fixed to the shaft and when they closed a 50 c.p.s. tone was heard by the subject, through a pair of headphones. The third cam could be moved in 10 equal steps through one revolution on the shaft independently of the other cams, so that the experimenter could vary the relation of this cam to the others. When this cam closed, current energised a solenoid, the plunger of which lightly tapped the pulp of the subject's right index finger. The apparatus when started ran for 10 secs. and then automatically stopped. A mechanical masking noise was added to prevent the subject obtaining additional auditory cues from sounds made by the cams.

Procedure. The subjects, who were tested individually, were told that they would hear a regular rhythm composed of two sounds, A and B, which would recur approximately every second for 10 seconds. Sound A was described as a low pitched hum and sound B as shorter, louder, and more harsh. They were then shown the diagram (Fig. 1). It was next explained that they would feel a mechanical impulse by resting their right index finger on a mark on a piece of cloth covering a small box (which contained the solenoid, padded to exclude any sounds and covered with several thicknesses of cloth). The impulse, it was stated, might occur anywhere in the cycle X—X in the figure shown, but would bear a constant relationship to the sounds during any one 10 sec. run. The subjects were told that their task was to estimate the relationship of the impulse to the sounds, and to say the number along the scale which they thought corresponded with the position of the impulse.

FIGURE 1

DIAGRAM OF CYCLE AS SHOWN TO THE SUBJECTS



Before starting the experiment proper the subjects were given a few trial runs to learn the sounds and the feel of the impulse. They first listened to both sounds, then the experimenter cut out the sounds one at a time so that the subjects could be certain of the identity of each sound. After five introductory runs most subjects said they understood the task, and the experiment then proceeded as below.

(*a*) *Experiment I.* The subjects were presented with two series of runs at an interval of 2–4 weeks. Each series consisted of 30 runs of 10 secs. each, 10 at each of the following speeds, 90 cycles per minute, 60 c.p.m. and 40 c.p.m., and at each speed the impulse occurred in each of the 10 possible positions once, the different speeds and positions being presented in random order. For each speed a 10 × 10 Latin square was used for the impulse positions presented to the 10 subjects, the speeds being randomized in groups of 3 by taking one column from each square to make a block 30 × 10 of all the impulse positions.

(*b*) *Experiment II.* This was undertaken as a supplementary experiment, to examine the effect of verbal directions; the subjects being told to attend to the sounds during a set of 10 runs and to the impulse during another set of 10 runs. Two 10 × 10 Latin squares were used for the presented positions of the impulse, and the rate was 60 c.p.m. Half the subjects attended during the first set of runs to the sounds and to the impulse during the second set, while the other subjects attended to the impulse in the first set and the sounds in the second.

Subjects. All except two of the subjects were officers of the R.A.F., mostly of the technical branches, one a qualified doctor. The remaining two subjects were civilians, one of them a trained psychologist.

Scoring. This was a measure of difference between the subjects' estimates and the actual position of the impulse, and was originally intended to be on a 10 point scale. It was found, however, that many subjects spontaneously gave half or intermediate values, and that there was a delay in the operation of the solenoid, which meant that the impulse occurred more nearly at the division marks following the number on the scale than at the mid-position between marks. Therefore a 20 point scale, from −9 to +10, was adopted and intermediate judgments scored while avoiding fractional results. Plus values represent estimates later, and minus values estimates earlier, than the actual occurrence of the impulse.

III

RESULTS—EXPERIMENT I

1. *Method of Assessing Results.*

(*a*) *Absolute errors, or errors without regard to sign.* These measure the variability of response and provide an index of reliability of judgment.

(*b*) *Errors with the signs considered.* These we shall call *shift errors*, the mean of which gives the earliness or lateness of the judgment in time.

(*c*) *The subject's estimates of position without regard to accuracy.* As the frequency of presentation was the same for all positions, it is to be expected that the distribution of estimates of position will conform to a null hypothesis, if errors are randomly distributed between positions.

2. *General Features.*

The mean of the absolute errors is 2·32 and these range from +9 to −9 which is almost the whole range possible, showing that sometimes the impulse is thought to be 180° out of phase, or 5 scale divisions from its true position, while the average error is only a little over one scale division. The number of times the answer is given with the error 1 or less is 358 out of the 600 readings. We can thus say that when there are several estimates made the accuracy is high but individual readings are often far from accurate.

The mean of the shift error is 0·748 with $s = 2{\cdot}81$. This represents a positive time error of only $\frac{3}{8}$ of a scale division. We cannot rely on the mean shift as an absolute figure, because owing to calibration difficulties in the apparatus the impulse may be occurring about $\frac{1}{4}$ division later than assumed. If this is so the true positive shift error is very small and comparable with the transit time for the nervous impulse up the subject's arm (ca. 15 millisecs.). All we can say is that if there is any consistent shift error it is positive and not more than about 60 millisecs. at the slowest speed. We shall still use the mean shift error as a comparative measure between different subjects and different positions, but not between different speeds as any calibration error will vary with speed.

The general overall accuracy agrees closely with the results of Hartmann's experiment previously mentioned; both in the scatter of errors and the low mean shift.

3. *Factors Influencing the Results.*

(*a*) *Subjects.* Table I shows the means of errors both absolute and shift, in the first and second series of runs and in both series together, for each subject. The subjects are ranked according to their absolute errors in both series of runs together, and this order is maintained throughout the experiment. It can be seen that the variation of errors, both absolute and shift, is considerable between the different subjects. This is both significant and substantial and is shown for the absolute errors by measuring the divergence of the ratio of low to high errors of each subject from this ratio for all subjects. These ratios are given in Table II *A* and divergence as measured by Chi-square is significant beyond the 0·1 per cent. point. For the shift errors the significance is shown by the method of analysis of variance, the results of which are set out in Table III, the ratio of the mean square for subject variation to the mean square for the remainder being significant beyond the 1 per cent. point.

The genuineness of this inter-subject variation is emphasized by its consistency as between the two series of runs. The product moment correlation between the absolute errors on the first and second runs is 0·79, and the rank correlation Tau is 0·64. The latter is given as well because the distribution of the absolute errors is not normal. Thus it can be said, that regarding the two series as test and retest, the consistency of the subjects is high enough to make the experiment the basis of a test for grading individuals in the ability to judge the time relationships involved.

TABLE I

EXPERIMENT I, MEANS FOR INDIVIDUAL SUBJECTS FOR BOTH SERIES OF RUNS, ERRORS AT ALL POSITIONS AND SPEEDS TAKEN TOGETHER. SUBJECTS ARRANGED IN ORDER OF ACCURACY IN ABSOLUTE ERRORS, BOTH SERIES TAKEN TOGETHER

	Series 1		*Series* 2		*Series* 1 + 2	
Subject	*Absolute Error*	*Shift Error*	*Absolute Error*	*Shift Error*	*Absolute Error*	*Shift Error*
1	1·17	+0·43	1·43	+1·03	1·30	+0·73
2	1·60	−0·67	1·37	−0·83	1·48	−0·75
3	1·47	+0·07	1·83	+0·43	1·65	+0·25
4	1·90	+0·90	1·73	+1·13	1·82	+1·02
5	2·33	+1·33	1·77	+1·57	2·05	+1·45
6	2·60	+1·13	1·87	+0·33	2·23	+0·73
7	2·80	−0·27	1·97	−0·23	2·38	−0·25
8	2·67	+0·13	2·87	+0·73	2·77	+0·43
9	3·40	+1·80	2·47	+2·20	2·93	+2·00
10	3·27	+3·00	2·67	+0·33	2·97	+1·67
All	2·32	+0·79	1·96	+0·71	2·14	+0·75

TABLE II

EXPERIMENT I, RATIOS OF ABSOLUTE ERRORS OF 3 AND BELOW TO HIGHER ERRORS

A. Subjects

Subject	1	2	3	4	5	6	7	8	9	10	*All*
Errors—											
3 and below	56	55	58	54	51	49	47	50	45	42	507
Above 3	4	5	2	6	9	11	13	10	15	18	93

Chi-square for departure from 50·7 : 9·3 ratio by individual subjects is 30·0 with 9 *d. f.* *P* <0·001.

B. Positions

Position	1	2	3	4	5	6	7	8	9	10	*All*
Errors—											
3 and below	47	46	52	57	57	54	54	47	44	49	507
Above 3	13	14	8	3	3	6	6	13	16	11	93

Chi-square for departure from 50·7 : 9·3 ratio at the separate positions is 25·5 with 9 *d. f.* $P < 0·01$.

TABLE III

Experiment I, Analysis of Variance, for the Shift Errors

	Degrees of Freedom	*Sum of Squares*	*Mean Square*	*P*
Subjects	9	552·3	61·37	<0·01
Positions	9	258·28	28·03	<0·01
Remainder	581	3914·42	6·84	
Total	599	4725·0		

(*b*) *Position of the impulse.* Table IV shows the means for absolute and shift errors for the 10 positions of the impulse.

TABLE IV

Means for each position, errors for all subjects and series of runs taken together

Position	1	2	3	4	5	6	7	8	9	10
Error—										
absolute ..	2·40	2·30	1·97	1·37	1·63	1·87	2·13	2·67	2·63	2·42
Shift + ..	1·53	1·50	1·53	0·57	0·53	0·33		0·13	0·53	1·35
Shift − ..							0·33			

It will be seen that the distribution of errors of both types is far from even over the different positions of the impulse. This variation is significant and substantial as shown for the absolute errors by measuring the divergence of the ratio of low to high errors at each position from this ratio at all positions. These ratios are given in Table II *B* and divergence as measured by Chi-square is significant beyond the 1 per cent. point. For the shift errors the results of an analysis of variance are shown in Table III, the ratio of the mean square for positions to the mean square for remainder is significant beyond the 1 per cent. point.

Table V shows the number of estimates at each position made by subjects both individually and together. The table shows a tendency for estimates to cluster in the region of sound B (in positions 4, 5 and 6) and this clustering represents a significant departure from equal distribution. (Chi-square is 31·05, $P < ·001$ 9 d. f.) This clustering is marked in subjects 7 and 8 but appears to be a general trend among individual subjects as indicated by the small interaction Chi-square, which is shown in the analysis at the end of Table V.

TABLE V

EXPERIMENT I. NUMBER OF TIMES THE IMPULSE IS ESTIMATED TO BE IN EACH POSITION BY INDIVIDUAL SUBJECTS, ALL SPEEDS AND BOTH SERIES OF RUNS TOGETHER. (ESTIMATES HALFWAY BETWEEN POSITIONS DISTRIBUTED EQUALLY TO THE POSITIONS ON EITHER SIDE.)

Subjects	*Positions*										*Chi-square*	*P. for 9 d. f.*
	1	2	3	4	5	6	7	8	9	10		
1	6	5	5	5	8	7·5	7	9·5	3	4	5·92	·8
2	2·5	6	6	9·5	8	7	6·5	3·5	8·5	2·5	9·08	·5
3	7	6	4·5	10	10·5	8	3	2	2·5	6·5	13·50	·2
4	5·5	6·5	3	9·5	3·5	8	8	5	6	5	6·33	·7
5	6·5	4·5	2·5	5·5	10·5	8	5·5	6	8·5	2·5	9·67	·3
6	7	4	4	8	4	8·5	9·5	5·5	4·5	5	6·50	·7
7	6	8	5	11	12	8	3	2	3·5	1·5	20·25	·02*
8	0·5	4·5	8·5	12·5	11·5	7	5·5	6	3	1	24·42	·01*
9	1	6	8	5	3	8	8	9	8	4	10·50	·5
10	6	6	11	5	5	8	2	7	7	3	9·67	·5
All	48	56·5	57·5	81	76	78	58	55·5	54·5	5·35	31·05	·001*

	Degrees of Freedom	*Chi-square*	*P*
Total Chi-squares for individual subjects . .	90	115·84	·065
Chi-square for pooled data	9	31·05	·001
Interaction Chi-square	81	84·79	·72

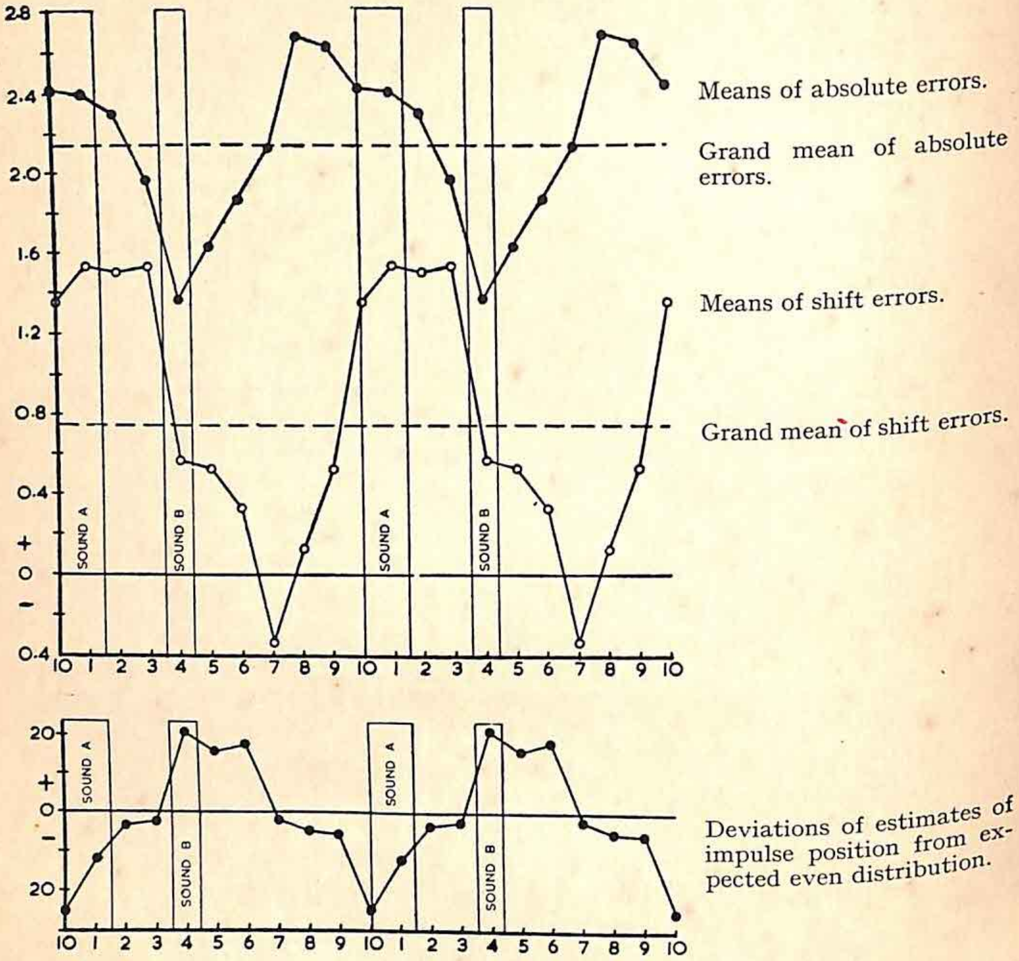
The small interaction Chi-square indicates that the deviations from even distribution of each subject are not significantly heterogeneous.

From further examination of the data it is seen that the departures from uniformity of both the absolute and shift errors fall into a cyclical pattern. In Figure 2 the "curves" for absolute and shift errors, and the deviations of subjects' estimates of position from even distribution, are plotted against position. For greater ease of reading each position appears twice on the abscissa. The curve for absolute errors is low at the position of sound B (pos. 4) and rises sharply in the interval between sound B and A to positions 8 and 9 from whence it descends, at first more slowly and then after sound A (pos. 1) more rapidly to sound B. The curve for shift errors is positive in the positions about sound A and then descends to position 7 in the interval between sounds B and A, where it is negative, and then rises to position 10. The distribution of subject's estimates of position shows a large number with, and just after, sound B (pos. 4, 5 and 6) and a small number just before sound A (pos. 10).

It is seen from the above that throughout the cycle both the increase of accuracy of judgment and the trend of the majority of the errors is towards sound B and that there is little evidence to show what influence sound A has on the errors.

The clustering of judgments about sound B is presumably due to the position of the sound in the rhythmic cycle or to some intrinsic quality of the sound itself. It is noteworthy that subject 7 who showed marked clustering about sound B stated that he was concentrating on this sound; and that this sound appeared subjectively predominant to most subjects. However, the possibility cannot be excluded that the nearness of sound B to the middle of the numerical scale may have had some influence.

FIG. 2. EXPERIMENT I. MEANS OF ABSOLUTE AND SHIFT ERRORS IN HALF SCALE UNITS (ORDINATE UPPER GRAPH) AND DEVIATIONS OF ESTIMATES OF POSITION FROM EVEN DISTRIBUTION (ORDINATE LOWER GRAPH), FOR ALL SUBJECTS TOGETHER PLOTTED AGAINST POSITION (ABSCISSAE).



(*c*) *Speed of the cycle.* The means for errors both absolute and shift, at the three speeds are shown in the bottom row of Table VI, with the means at each position above. In presenting these results the difficulty arises that the duration of the scale unit varies with speed being 150, 100 and 67 milliseconds per scale division (one-tenth of a cycle or two units of error) at the speeds 40, 60 and 90 c.p.m. respectively. As it is debatable whether errors should be measured in time or scale units, both are given.

It can be seen that the absolute errors in scale units increase with increase of speed, slightly between 40 and 60, and substantially between 60 and 90. This latter increase is significant, as is shown by measuring the divergence of the ratio of low to high errors at speed 90 from this ratio for speeds 60 and 90 combined. The figures for this are given below, together with Chi-square and corresponding P values.

Speed	40	60	90
Errors of 3 and below ..	185	181	141
Errors above 3	15	19	59

Chi-square (with Yates' correction) for increase at speed 90 is 11·1 $P < \cdot 001$.

TABLE VI

EXPERIMENT I, MEANS OF ERRORS BOTH ABSOLUTE AND SHIFT FOR EACH POSITION AT THE THREE SPEEDS, ALL SUBJECTS AND BOTH SERIES OF RUNS TAKEN TOGETHER. THE DECIMAL NUMBERS ARE THE MEANS IN SCALE UNITS AND THE WHOLE NUMBERS THE TIME REPRESENTED BY THEM IN MILLISECONDS

Position	*Speed 90 cpm.* *Errors*		*Speed 60 cpm.* *Errors*		*Speed 40 cpm.* *Errors*	
	Absolute	*Shift*	*Absolute*	*Shift*	*Absolute*	*Shift*
1	3·95 132	+3·05 +102	1·75 87	+0·85 +42	1·50 112	+0·70 +52
2	3·45 115	+2·05 +68	1·85 92	+1·45 +72	1·60 120	+1·00 +75
3	2·05 68	+1·45 +48	2·10 105	+2·10 +105	1·75 131	+1·05 +79
4	1·60 53	+0·90 +30	1·05 52	+0·35 +17	1·45 109	+0·45 +34
5	1·60 53	+0·30 +10	1·50 75	+0·60 +30	1·80 135	+0·70 +52
6	2·00 67	+0·30 +10	2·05 102	+0·25 +12	1·55 116	+0·45 +34
7	2·75 92	−1·75 −58	2·00 100	+0·40 +20	1·65 124	+0·35 +26
8	4·05 135	+0·05 +2	2·60 130	+0·20 +10	1·35 101	+0·15 +11
9	4·10 137	+1·50 +50	2·10 105	+0·30 +15	1·70 127	−0·20 −15
10	3·15 105	+1·65 +55	1·90 95	+1·30 +65	2·20 165	+0·50 +37
All	2·87 96	+0·95 +31	1·89 94	+0·78 +39	1·66 124	+0·51 +39

When the errors measured in milliseconds are examined it is seen that there is less difference between the speeds, the only increase in absolute errors being at speed 40. This increase may be due to the coarseness of units of measurement compared with the mean absolute error. (1 Scale division = 150 millisecs., mean of absolute errors = 124 millisecs. for speed 40.)

If the preceding assumption is correct then it would appear that the increase of the absolute errors at the higher speeds could be accounted for by a common temporal element operating uniformly. This could not, however, account entirely for such effects as the clustering of the judgments around sound B, seen in the last section.

The means of errors both absolute and shift, in scale units and milliseconds, for individual subjects at the three speeds are shown in Table VII. It can be seen that most subjects show the same general trend of increase of errors with increase of speed, but that subject 2 shows a considerable decrease of errors in both scale units and milliseconds, with increase of speed. Owing to the design of the experiment this is unlikely to be a presentation effect and indicates that the idea of a common temporal element in the errors must be viewed with considerable caution.

TABLE VII

Experiment I, means of errors both absolute and shift for each subject at the three speeds. The decimal numbers are the means in scale units and the whole numbers the time represented by them in milliseconds

	Speed 90 *cpm. Errors*		*Speed* 60 *cpm. Errors*		*Speed* 40 *cpm. Errors*	
Subject	*Absolute*	*Shift*	*Absolute*	*Shift*	*Absolute*	*Shift*
1	1·65 55	+1·15 38	0·85 42	+0·75 37	1·40 105	+0·30 22
2	1·00 33	+1·50 50	1·50 75	−0·90 45	1·95 146	−1·65 124
3	2·20 73	+0·60 20	1·45 72	+0·05 2	1·30 97	+0·10 7
4	2·50 83	+1·50 50	1·40 70	+0·90 45	1·55 116	+0·65 49
5	2·95 98	+1·55 52	1·80 90	+1·60 80	1·40 105	+1·20 90
6	2·60 87	+0·60 20	2·35 117	+0·85 42	1·75 131	+0·75 57
7	3·60 120	−0·60 20	2·10 105	−0·30 15	1·45 109	+0·15 11
8	3·80 127	+0·60 20	2·25 112	+0·65 32	1·65 124	+0·65 49
9	4·50 150	+2·10 70	2·10 105	+1·80 90	2·20 165	+2.10 157
10	3·90 130	+1·70 57	3·10 155	+2·40 120	1·42 142	+0·90 67

(*d*) *Effect of practice.* Within each series the effect of practice can be seen by examining the means of errors for groups of three columns taken serially from the 30 by 10 block of subjects' errors for each series, each block containing one judgment at each position at each speed. These means are set out in Table VIII for both series, with the correlation of their magnitude and serial order. This is small in all cases, showing that there is little consistent trend in the errors.

In Table IX the means of absolute and shift errors for each series, at the three speeds separately and together, are set out. It can be seen that the total errors both absolute and shift are less in the second series. The variance of the errors shows a decrease in the second series which is significant (F = 1·3 Pca ·01), substantiating the small decrease observed in the means of the absolute errors above. Thus while there is no demonstrable effect of practice within each series, there is evidence of improvement between the two series, separated by an interval of time, which for most subjects was between two and four weeks.

TABLE VIII

EXPERIMENT I, MEANS OF ERRORS BOTH ABSOLUTE AND SHIFT, IN GROUPS OF THREE COLUMNS IN SERIAL ORDER. EACH MEAN IS OF 30 READINGS, ONE AT EACH SPEED BY EACH SUBJECT, EACH POSITION REPRESENTED EQUALLY AT EACH SPEED.

Group of 3 columns	1	2	3	4	5	6	7	8	9	10	*Tau*
Series 1.											
Errors—											
Absolute ..	2·53	2·13	2·50	2·03	2·77	1·80	2·33	2·70	1·97	2·43	−0·29
Shift + ..	0·60	1·07		0·97	1·10	0·67	0·53	0·97	1·03	1·30	+0·26
Shift − ..			0·37								
Series 2.											
Errors—											
Absolute ..	2·27	1·97	1·79	2·03	2·20	1·70	1·73	1·80	2·07	2·37	+0·23
Shift + ..	0·93	0·37	0·90	0·30	1·33	0·37	0·73	1·00	1·00	0·43	+0·11

TABLE IX

EXPERIMENT I, MEANS OF ERRORS BOTH ABSOLUTE AND SHIFT, FOR BOTH SERIES AT THE THREE SPEEDS SEPARATELY AND TOGETHER

Speed	90 *cpm.*	60 *cpm.*	40 *cpm.*	*All*
Series 1.				
Errors—				
Absolute ..	2·97	2·06	1·93	2·32
Shift + ..	0·79	0·78	0·79	0·79
Series 2.				
Errors—				
Absolute ..	2·77	1·72	1·38	1·96
Shift + ..	1·11	0·78	0·24	0·71

4. *Variations in Attitude and Performances of Individual Subjects.*

As well as differences in errors the subjects varied in many other ways, some of which were evident by their behaviour and some from their introspections.

Most subjects answered as soon as the 10 second run was finished. Subject 5, however, often answered halfway through the run, while subject 6 answered only after considerable thought, and subject 4 said she would have liked more time; of these, the last was the most accurate of the three but the differences were not great.

Subject 5 was the only one who said anything about the length of the series. About two-thirds of the way through each he asked how much more there was, and said if there was much more he would become less accurate. There did not however appear to be any actual increase of his errors in the last third of the series.

The majority of the subjects said they "concentrated on the sounds, and fitted the impulse in relation to them." Although the subjects had not been instructed to do this, such a procedure might be encouraged by the diagram which showed the sounds as the fixed part of the cycle of events. Subject 7 said he concentrated on sound B, and as already noted he made a higher than average number of answers at this position.

Subject 1, a violinist, who was the most accurate, said he found the task straightforward and referred to the sounds as a musical rhythm. Subject 2, who was also accurate, stated that he repeated the scale numbers to himself with each cycle. This last suggests a possible method by which accuracy can be attained at this sort of task.

IV

RESULTS—EXPERIMENT II

Subject 6, who was a trained psychologist, stated after he had done Experiment I, that he sometimes attended to the sounds and sometimes to the impulse, and that the one attended to came in first. This suggests comparison with the work of S. A. Stone (1926) who found when subjects were presented with a single auditory and a single tactile stimulus closely related in time, that if the subject was told to attend to either the sound or to the impulse, there was a prior entry of the stimulus attended to, which averaged 50 milliseconds.

Experiment II was carried out, using the same apparatus and technique as in the first experiment, to ascertain whether verbal instructions to the subject to attend to one of the sets of stimuli would lead to prior entry of that set of stimuli, when the stimulus pattern was repeated in a regular manner.

In Table X the means are shown of absolute and shift errors for each subject when directed to attend to the sounds for ten runs, and to the impulse for ten runs. It can be seen that there is a small increase in both the absolute and shift errors when the subject's attention was directed to the impulse. However, the increase in variance of the shift errors under the latter conditions is not significant, showing that the verbal directions had little effect on the errors. The actual difference in mean shift is only 3·5 milliseconds, while if there was prior entry comparable with that in Stone's experiment there should be a difference of 100 milliseconds. The increase in absolute errors may only be due to a confusion of the subject when he tries to attend to the impulse, a task which many stated was difficult, confusing or even impossible.

TABLE X

EXPERIMENT II, MEANS FOR ERRORS BOTH ABSOLUTE AND SHIFT WITH SUBJECT'S ATTENTION DIRECTED TO EITHER THE SOUNDS OR THE IMPULSE. ALL RUNS AT SPEED 60 CPM.

	Attention directed to sounds		*Attention directed to impulse*	
	Errors		*Errors*	
Subject	*Absolute*	*Shift*	*Absolute*	*Shift*
1*†	0·7	−0·3	0·8	0·0
2†	3·3	−2·3	3·7	−3·5
3	2·6	−0·6	1·5	+0·5
4*	1·8	+1·6	2·2	+1·6
5	1·7	−0·1	2·3	−0·1
6*†	2·2	+1·4	1·8	+1·0
7*†	1·4	+0·6	1·6	+0·4
8	2·3	+1·1	3·8	−0·2
9†	1·8	−0·2	1·2	+0·6
10	1·6	+0·8	2·8	+2·6
All	1·94	+0·22	2·17	+0·29

* Took part in experiment I under the same number.

† Directed to attend to sounds in the first 10 runs.

In the auditory-visual combination the relationship of the classical star transit experiment to that of Hartmann, discussed earlier, is similar to the relationship, in the auditory tactile combination, of the work of Stone to this experiment, in as much that in both the later experiments the stimuli are repeated in a regular rhythm. And, just as Hartmann found that the judgments were more uniform and with a low mean of shift errors, so in this experiment it was to be expected that the prior entry found by Stone, would not be apparent.

V

Discussion of the Results in Relation to the Clinical Diagnostic Problem

As mentioned in the introduction, the clinical problem is that of timing the heart sounds by their relationship to the radial or carotid pulse.

The radial pulse occurs just after the first sound but is more diffuse than the experimental impulse and so covers positions 2 and 3. When the impulse is in position 2 or 3, then if the subject judges it to be at position 1, 2, 3 or 4, it can be regarded that the impulse appears to follow the first sound (sound A), and so "correct diagnosis" may be considered to have occurred. At position 2, 46 out of 60, and at position 3, 37 out of 60 estimates are in this group.

The carotid pulse occurs at the end of the first sound, and corresponds to positions 1 and 2. If the impulse is judged to be at positions 10, 1, 2 or 3 it can be regarded as being apparently with or just after the first sound, and here "correct diagnosis" occurred in 47 out of 60 estimates at position 1 and 37 out of 60 at position 2.

These figures show that this group of untrained persons were able to estimate the position of the impulse in relation to the rhythm of the sounds with sufficient accuracy in about two-thirds of the runs to suggest that they could have estimated the first sound of the heart by the classical timing method, in a like proportion of trials, though the remaining estimates were often so inaccurate that they might have been completely wrong. It is true that in the clinical situation there is more time; some additional cues available for making the judgment, and the observer has had more training. How far this last is effective would, however, need further investigation: subject 9 in the first experiment, the only qualified doctor, was one of the least accurate.

The results suggest that the classical method of timing the heart sounds may not be completely reliable and merits study.

VI

Suggestions for Further Work

From what has been said it would appear that experiments with more accurate apparatus are desirable in relation to the following questions.

1. To what extent is it possible to account for errors in terms of a constant time factor?
2. What are the reasons for the clustering of judgments around sound B?
3. What would be the effect of speeds higher and lower than those used in the present experiments? None of the subjects regarded the highest of the present speeds as impossibly fast.
4. What would be the effect of varying the numbers of the stimulus cycles presented from one upwards? Investigation of this point would elucidate, perhaps, the breakdown of prior entry in a repeated stimulus pattern.
5. What accuracy of judgments would be attained when no time limit is imposed?
6. Could a procedure based on this experiment be validated as a test of clinical ability?

VII

Summary

The two experiments reported here, were designed to determine the accuracy with which a repeated tactile stimulus can be placed in relation to a repeated auditory pattern, and thus to investigate, in a simulated process, the timing of the heart sounds by the classical method. The task consisted of relating an impulse felt by the right index finger to a rhythm of two sounds presented *via* headphones. Ten subjects took part in each experiment.

In the *first* experiment the subject made 30 judgments; for each the sounds and impulse recurred regularly for 10 seconds, at either 90, 60 or 40 cycles per minute. The speed of the cycle and the position of the impulse were varied independently between each judgment. The subject answered by stating to the nearest one-tenth of a cycle where he judged the impulse to be in relation to the sounds. He made another 30 observations after an interval of 2 to 4 weeks. The results were as follows:

(1) 358 out of the 600 judgments were within one-tenth of a cycle of the true position, the remainder were up to half a cycle early or late.

(2) There was considerable and significant variation between the individual subjects, but substantial agreement for the scores of each subject in the two series of judgments.

(3) There was an *increase* of accuracy of judgment when the impulse was presented in the region of the *second* sound, and when the impulse was presented in other positions it tended to be referred towards this sound.

(4) There was a marked increase in errors with increased speed of presentation.

(5) There was a definite decrease of errors between the two series of 30 judgments, but no significant consistent trend was found within each series.

In the *second* experiment all the judgments were at 60 cpm. and were in two groups of 10. During one group the subject was instructed to attend to the sounds and in the other to the impulse. These verbal instructions produced no significant effect.

The judgments given would have been sufficiently accurate for timing of the heart sounds by the classical method, in two-thirds of the cases.

Further experiments are suggested which might clarify certain of the present findings.

VIII

REFERENCES

1. HARTMANN, J. (1858). *Archiv. der Mathematik und Physik*, **31**, 1–26.
2. STONE, S. A. (1926). *Amer. J. Psychol.*, **37**, 284–291.

(*Manuscript received 5th April*, 1948.)

BOOK REVIEW

Cybernetics : or Control and Communication in the Animal and the Machine. By NORBERT WIENER. John Wiley & Sons, Inc., New York, 1948. Pp. 194.

The reviewer's lot is seldom a happy one, and it is particularly uncomfortable in this case because of the apparently all-embracing nature of the subject. If "cybernetics" means "control and communication," what does it not mean? It would be difficult to think of any process in which nothing is either controlled or communicated. Such a charge can be brought against many definitions and criteria, and the only defence is an appeal to reasonableness. In this case the reasonable person will agree that there is a class of mechanisms or systems whose principal function is not merely to liberate or absorb energy, but to do it in a certain prescribed manner. The cost of a telephone call does not depend upon the amount of electrical energy used; it is the result of using it in a certain rather complicated way. Again, it may cost slightly more to hire a professor than a labourer. They are both hired to do physical work, but while foot-pounds per hour is at least a partial measure of the labourer's value, that of the professor depends almost entirely on the manner in which he expends energy; what matters is what he says, not how loudly he says it.

The point is that the theory of the telephone and the theory of the professor are both aspects of cybernetics, in so far as we are interested, not in the energy itself, but in the way in which it is controlled. (It may be mentioned here that the word is derived by Professor Wiener and his colleagues from the Greek "kybernetes," meaning "steersman.")

Were no more involved than this philosophical point, it might seem unnecessary to write a book upon it. But the present century has seen a quite remarkable development and exploitation of what may be called, if the adjective is permissible, cybernetic devices; the everyday name for them is automatic devices. The first-born of a new technology is a technical language; the second-born is a body of abstractions which quickly aspires to the title of theory. The theory may be implicit in pure mathematics, but it must be made explicit before it can be readily handled. It may then be found that the theory developed for one technology can be fruitfully applied to another. For instance, the theory of electrical wave filters has been used in the design of gramophone sound-boxes and motor-car silencers.

In the case of automatic devices, a number of "theory systems" have grown up more or less independently. Those of process control, servo-mechanisms, telecommunication, computing machines and human behaviour are examples of what Professor Wiener has in mind, and he is at pains to show that these several disciplines have potentially, and should have, in fact, a great deal in common. To a limited extent this has been recognised for some time; urged by problems arising in the design of certain military equipment, engineers have employed their special modes of approach, with at least promising results, to determine the stimulus-response relations of the human operator performing tasks of the pursuit-meter type. And it is not unfair to add that psychologists, as trained, would have been quite unable to do this.

Professor Wiener, however, is concerned with more fundamental considerations. He says, for instance, that ". . . the problems of control . . . and communication engineering . . . (centre) not around the technique of electrical engineering, but around the much more fundamental notion of the message, whether this . . . be transmitted by electrical, mechanical or nervous means. The message is a discrete or continuous sequence of measurable events distributed in time—precisely what is called a time-series by the statisticians." And deeper still: ". . . just as the calculus of arithmetic lends itself to a mechanisation progressing through the abacus and the desk computing machine to the ultra-rapid computing machines of the present day, so the *calculus ratiocinator* of Leibniz contains the germs of the *machina ratiocinatrix*, the reasoning machine. . . . The same intellectual impulse which has led to the development of mathematical logic has, at the same time, led to the ideal or actual mechanisation of processes of thought."

The question of whether, to put it crudely, machines can think may or may not be important to psychology; one can take either point of view, and still know much, or little, about human behaviour. But those who study the brain as the "organ of mind" are classing it, by implication, as a thinking machine, and they should be aware that a good deal is known about the art of designing thinking machines. That knowledge cannot solve the particular problems of psychology and neurophysiology, but it can often point to probable solutions. For example, there is something to be gained from considering the types of physical mechanism which can give rise to logarithmic relations between quantities, because such relations are common in biological phenomena. Professor Wiener mentions a case in his own experience, in connection with clonus in the spinal cat, of which he says, ". . . the frequency of . . . oscillation is . . . much more nearly determined by the constants of the closed (reflex) arc . . . than by anything else. This circuit is not even approximately a circuit of linear operators if we take as our base of linearity the number of impulses transmitted by the efferent nerve per second, but seems to become much more nearly so if we replace the number of impulses by its logarithm. . . . The synapse is a coincidence-recorder, and the outgoing fibre is only stimulated if the number of incoming impulses in a small summation-time exceeds a certain threshold. . . . The synaptic mechanism serves to multiply probabilities, and that it can be even an approximate linear link is only possible in a logarithmic system. This . . . is certainly allied to the approximate logarithmicity of the Weber-Fechner law of sensation intensity." Referring to the clonus experiment again, he continues: ". . . on this logarithmic basis, and with data obtained from the conduction of single pulses through the various elements of the neuromuscular arc, we were able to obtain . . . theoretical oscillations of about 13·9 per second, in cases where the observed oscillations . . . generally remained . . . between 12 and 17. Under the circumstances, this agreement is excellent."

Lest these extracts should give a false impression, however, it must be made clear that the book as a whole attempts neither to record specific findings nor to argue a specific theory. It is a discursive essay touching on many topics, including Bergsonian time, the ergodic hypothesis, the Maxwell demon, psychopathology, statistical mechanics, information, feed-back and oscillation, and many more, with the general purpose of pointing out the underlying common principles. Its success in this direction might have been greater if it had been more carefully planned. For example, the mathematical excursions are mostly out of place in a work of this kind, not only because they are advanced, but because they are too concise to be understood by anyone but an expert. To some extent, the lack of critical selection of matter is offset by the personal touch, which is in evidence throughout, and which reveals a good deal of the personality of the author. He tells us how he laid some of his ideas before high government officials, with what negative result can be imagined; who but a "thinker" thrice-distilled would have thought it worth attempting?

In short, this is Professor Wiener talking, and the conversation of an exceptionally intelligent and well-informed person is always worth listening to; since the tenor of the conversation has already been indicated, no more need be said. W. E. H.

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addresses of each consignor consignee, the packages of other than foodgrains received each consignor and the number date of challan given to the or under sub-rule (3) of 61A, the nature and weight ach goods contained in each gnment, the total weight of oods carried in the transport e, the freight leviable in t of each consignor or consignd the name and address of the , if any, in whose favour a e under rule 109A has been d and, through whom the goods onsigned."; and

ule (a), insert the following amely:—

standing anything contained rule (a) a permit-holder of every vehicle shall furnish to the Transport Authority or the l Transport Authority by which it has been issued, as the case a fortnightly return in duplicate the movement of the commo- the vehicle, and containing the g particulars, namely:—

the permit has been granted ate Transport Authority or al Transport Authority;
d address of the permit-holder;
number;
tion number of the vehicle;
number and date;
commencement of movement;
f the place and the district of h;
the place and the district of ion;
d address of the consignor;
d address of the consignee;
f commodities;
y despatched in metric tons ilograms;
which the movement is com- ; and
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odities referred to in this le comprise of rice in husk, rice husk, jowar, bajra, maise, other millets, wheat flour, gram and gram products, other than gram and gram s.

pt of the return referred to in (aa) the Transport Authority rward a copy thereof to the ent of Food, Relief and Sup- overnment of West Bengal."

FILED

Development

RESOLUTION

No. 4478Dev.—21st June 1961.—In continuation and elucidation of Health Department resolution No. Medl./4259/11M-4/61, dated the 12th May 1961, authorising the establishment of an agency known as the "Calcutta Metropolitan Planning Organisation" the Governor is pleased to lay down the following principles in accordance with which the said organisation shall act:—

(1) The organisation will be a separate unit functioning in the Development Department.

(2) The Secretary of the organisation shall be ex-officio Secretary to the Government in the Development Department and shall, subject to the orders of the Minister-in-Charge, exercise the powers vested in the organisation and shall be its corresponding agent.

(3) Subject to adequate budget provision, the powers and duties of the organisation shall be subject to the following conditions:—

(i) Undertaking of works of a capital nature including purchase of assets which involve capital expenditure exceeding rupees one lakh shall be referred to the State Government for approval before authorisation.

(ii) No post carrying pay exceeding Rs. 1,200 per month or a scale of pay of which the maximum is above Rs. 1,500 per month shall be created without the previous approval of the State Government.

(iii) Sanction of write-off of irrecoverable value of stores or money lost by theft, fraud or negligence, irrecoverable losses and advances or sanction of remission of and abandonment of claims involving a sum exceeding Rs. 5,000 will be referred to the State Government for approval before authorisation.

(iv) Receipt of funds from sources other than Government will pass through Government accounts.

(4) A cash imprest account not exceeding Rs. 20,000 will be opened and operated through the Reserve Bank of India by the Secretary of the Calcutta Metropolitan Planning Organisation.

Filed

Order

Ordered that the resolution be published in the "Calcutta Gazette".

By order of the Governor,

H. BANERJEE, Director.

is pleased to appoint Lt.-General B. N. Chakravarti to act as Secretary of the Calcutta Metropolitan Planning Organisation, established under Department of Health resolution No. Medl./4259/11M-4/61, dated the 12th May 1961. He will also act as ex-officio Secretary to Government in the Development Department in all matters relating to the Calcutta Metropolitan Planning Organisation.

No. 4485/1E-18/60.—22nd June 1961.—In exercise of the power conferred by section 35 of the West Bengal Development Corporation Act, 1954 (West Bengal Act XIV of 1955), the Governor is pleased to make the following amendment in the West Bengal Development Corporation Rules, 1956, published with the Development Department Notification No. 6992/2A-23/55, dated the 9th August 1956, at pages 3225-3234 of Part I of the "Calcutta Gazette", dated the 23rd August 1956, as subsequently amended (hereinafter referred to as the said rules), namely:—

Amendment

In sub-rule (2) of rule 8 of the said rules, for the words "or the Chief Account Officer", insert the words ", and may, on the recommendation of the West Bengal Development Corporation and if it thinks fit, appoint a retired Government Officer, or any other person after inviting applications, as the Chief Accounts Officer,".

By order of the Governor,
H. BANERJEE,
Development Commissioner and
Secy. (ex officio).

No. 106/7E-32/60.—6th January 1961.—The Governor was pleased to appoint Shri S. M. Goswami, temporary Superintending Engineer, Planning Circle, Construction Board, to act temporarily, in addition to his own duties, in the post of Superintending Engineer, Relief Circle, Construction Board, with effect from the 1st December 1960 forenoon and until further orders.

His headquarters will be at Calcutta.

By order of the Governor,
H. C. DATTA, Dy. Secy.

No. 4223/2C-29/59.—14th June 1961.—In exercise of the power conferred by section 16 of the West Bengal Development Corporation Act, 1954 (West Bengal Act XIV of 1955), the Governor is pleased hereby to make the following amendment to this department notification No. 7720/2C-29/59, dated the 26th October 1959, published at page 3892 of Part I of the "Calcutta Gazette" of the 12th November 1959 (hereinafter referred to as the said notification, namely:—

Amendment

In the said notification, for the words "local areas of municipalities constituted under the Bengal Municipal Act, 1932 (Bengal Act XV [illegible] excluding Howrah", substitute the [illegible] West Bengal excluding

to act temporarily in the post of Educational Unit under the with effect from the date of a and until further orders, vice Roy, transferred.

His headquarters will be in

No. 4186/7E-12/59.—13th Governor is pleased to direct Roy, Assistant Engineer, Educ truction Board, to act in the Assistant Engineer under Planning Division of the Cons effect from the date he takes o further orders.

His headquarters will be in

No. 4224/7E-13/61.—22nd Governor has been pleased to Bhadra, temporary Assistant E Subdivision I, under the Con act temporarily in the post of Industrial Estate Subdivision Division, Construction Board, date he takes over charge and

His headquarters will be at

No. 4225/7E-13/61.—22nd Governor is pleased to direct Sh temporary Assistant Engineer division III under the Constru temporarily in addition to his post of Assistant Engineer, Har I under the Construction Boar the date he takes over charge orders, vice Shri Partha Bha

No. 10159/11E-53/58.—29th The Governor is pleased to appo Guha, son of Shri Haridas Gu the date of his joining and un the temporary post of Tech Superintending Engineer, Construction Board.

His headquarters will be at C

No. 10160/11E-53/58.—29th The Governor is pleased Bimalananda Maity, son of S Maity, with effect from the d until further orders, to the tem ant Engineer, Burdwan Univ No. III, under the Burdwan U the Construction Board.

His headquarters will be at B

June 1961.—In conti-
tion No. 1043Agri., dated the
the Governor is pleased to
State Coconut Development Board,
the following members:—

entary Secretary, Agriculture
Production Department—

of Agriculture, West Bengal

ar, Co-operative Societies, West
Member.

Secretary to the Government
engal, Agriculture and Food
Department (Agriculture)—

Secretary to the Government of
gal, Cottage and Small Scale
Department—Member.

Officer, Lac and Coir, Indus-
rtment—Member.

Sanyal, Deputy Secretary to the
t of West Bengal, Refugee,
Rehabilitation Department—

ry, Indian Central Coconut
—Member.

Roy, post office Jaduberia via
district Howrah—Member.

Chandra Samanta, 12B Netaji
d, Calcutta-1—Member.

Mullick, Proprietor, Messrs.
haran Mullick & Co., 167/4
Street, Calcutta—Member.

kar Chakraborty, post and
ghudevpur, district Howrah—

Kumar Chakraborty, M.L.C.,
and village Kodalia, district
as—Member.

a Nath Bose, Secretary, Abhoy
office Birati, district 24-Par-
ber.

l Chandra Ghosh, M.L.A., post
village Beldanga, district Mur-
Member.

houdhury, Special Officer (Pota-
est Bengal—Secretary.

1961.

4. The functions of the Board will be to advise the Government on all matters connected with the development of coconut in this State (as food crop and also as the source of raw materials for the coir industry): review the progress of work done in this sphere from time to time and examine the programme relating to the development of coconut in this State, which would be essentially necessary, keeping in view the present position of the State finances.

5. The Board shall meet quarterly.

6. The Secretary shall convene meetings of the Board with the approval of the Chairman.

7. The Chairman of the Board may, by resolution, appoint Standing Committee or Ad hoc Committees for consideration of any special matters relating to the development of coconut in this State. The Chairman shall have powers to invite any person to be present at a meeting of the Committee and to take part in its deliberations.

By order of the Governor,

R. GHOSH, Secy.

FORESTS DEPARTMENT

Forests

NOTIFICATION

No. 3751For.—23rd June 1961.—The Governor is pleased to allow Shri K. L. Lahiri, W.B.S.F.S., Conservator-General of Forests, West Bengal, earned leave for 21 days with effect from the 12th July 1961, under rule 167(a) of the West Bengal Service Rules, Part I.

By order of the Governor,

N. N. AKHRADHARY, Dy. Secy.

DIRECTORATE OF AGRICULTURE

(To be substituted for the memorandum bearing the same No. and date.)

No. 6533—22nd May 1961.—Earned leave for sixty-five days with effect from 10th January 1961 is hereby granted to Shri Subrata Sen, Special Officer, Crop Research, in terms of rule 167(a)(i) of West Bengal Service Rules, Part I, as amended in Finance (Audit) Department notification No. 2348F., dated the 1st August 1960.

Certified that Shri Sen is likely, on the expiry of such leave, to return to the station from which he proceeds on leave.

H. K. NANDI, Director.

NOTIFICATIONS

No. 1398Co-op./1D-1/61.—21st June 1961.—In exercise of the power conferred by clause (b) of sub-rule (1) of rule 28 of the Bengal Co-operative Societies Rules, 1942, as subsequently amended, read with bye-law No. 28(e) of the Registered Bye-laws of the Balia Co-operative Multipurpose and Marketing Society Ltd., district Nadia, the Governor is pleased to appoint—

(1) the Block Development Officer, Chakdah,

(2) the Subdivisional Agricultural Marketing Officer, Ranaghat,

(3) Shri Rajendra Lal Das, village Dubra, post office Gouripur, district Nadia,

as representatives of the State Government to the Managing Committee of the Balia Co-operative Multipurpose and Marketing Society, Ltd., district Nadia.

By order of the Governor,

N. N. CHATTERJEE, Secy.

No. 1417Co-op./2E-67/61.—22nd June 1961.—The Governor is pleased to confirm Shri Ahi Bhusan Misra, probationary Assistant Registrar of Co-operative Societies, in his appointment as Assistant Registrar of Co-operative Societies, with effect from the 4th December 1960.

By order of the Governor,

N. N. CHATTERJEE, Secy.

REFUGEE RELIEF AND REHABILITATION DEPARTMENT

E & S

NOTIFICATION

No. 6065E & S.—27th June 1961.—The Governor is pleased to allow Shri Sudhir Chandra Ghosh, District Rehabilitation Officer, Birbhum, earned leave for 10 days with effect from 18th May 1961 under rule 168(i) of the West Bengal Service Rules, Part I.

By order of the Governor,

S. MAJUMDAR, Dy. Secy.

section 9 of the Calcutta Univer
Chancellor of the Calcutta U
to approve of the appointmen
Syndicate, of Shri Satis Chan
Treasurer of the Calcutta Unive
Member of the Senate, to exer
perform the duties of the
addition to his own duties, dur
Dr. Subodh Mitra, the present
from India, with effect from the
until he resumes charge of his d

By order

D

EDUCATION DEPAR

Education

NOTIFICATI

No. 2256Edn(G)/9B-8/60/61.
—In exercise of the power confe
(1) of section 8 of the Benga
Education Act, 1930 (Bengal
the Governor is pleased hereb
Kalobaran Ghosh, who has be
District School Board of Howr
dent of the said board.

2. In exercise of the power c
9 of the said Act, the Governo
to publish the name of Shri K
the President of the District
Howrah.

By order

K. LAHI

No. 1678Edn(A)/4A-166/
1961.—The Governor is p
Shri Saurindra Kumar
to act as Lecturer
Darjeeling Government Colle
Bengal Junior Educational Serv
for a period not exceeding
effect from the date on which h

No. 1697Edn(A)/4A-100/61.
—The Governor is pleased to
Kumar Pal. MSc., to act as Le
at the Chandernagore College
Junior Educational Service (M
period not exceeding three mon
the date on which he joins the

No. 1698-Edn. (A)/4A-100
—The Governor is pleased to
Kanti Dutta, M.Sc., to a
Geography at the Chanderna
West Bengal Junior Educatio
Branch), for a period not exce
with effect from the date on
post.

Educational Service (Men's
eriod not exceeding three months
the date on which he joins the
ummer vacation of the college in
Shankar Kumar Basu Mallick.

(A)/4A-44/60/61. — 23rd June
vernor is pleased to allow
kravarty, M.A., officiating Lectu-
Maulana Azad College, Calcutta, in
gal Junior Educational Service
to continue to act in that post and
for a further period of three
ect from 1st June 1961.

(A)/4A-44/60/61. — 23rd June
ernor is pleased to appoint
Acharyya, M.A., to act as Lecturer
jeeling Government College in the
nior Educational Service (Men's
effect from the date on which he
vice Shri Pranab Kumar Ghosh
til further orders.
this Department notification
), dated the 1st May 1961:

(A)/A-4A-137/60/61.—23rd June
vernor was pleased to allow
Ali, M.A., officiating Lecturer in
a Azad College, Calcutta, in the
nior Educational Service (Men's
nue to act in that post and in that
ther period up to the commence-
mer vacation of the college in 1961
the 2nd March 1961.

(A)/A-4A-239/60. — 23rd June
Governor is pleased to allow
handra Biswas, M.Sc., officiating
hematics, Krishnagar College, in
al Junior Educational Service
to continue to act in that post
service for a further period of
th effect from the 15th June 1961
filled up by a Public Service Com-
e, whichever is earlier.

(A)/4A-108/61.—23rd June 1961.
is pleased to appoint Shri Benoy
B.Sc., B.T., Dip.-in-Education
hief Inspector, Secondary Educa-
gal, in the West Bengal Senior
vice (Men's Branch), to act, in
own duties, as Chief Inspector for
tion, West Bengal, in the West
Educational Service (Women's
fect from the date on which he
es of the post, vice Sm. Manorama
d until further orders.

By order of the Governor,

D. M. SEN, Secy.

Correction to the Central Government's Compilation of Treasury Rules, volume I (First Edition/Fifth Reprint).

No. TM/795. — 19th June 1961. — All Treasury and Sub-Treasury Officers in West Bengal, all Heads of Offices of the Central Government and the Manager, Reserve Bank of India, Calcutta, may please note the following further corrections made to the Central Treasury Rules, volume I.

Correction Slip No. 319

Page 69, Rule 217.

Insert the following as a new Note No. 3 below this rule:—

> Note 3.—Pay and Establishment bills of the Manipur Administration may be signed and presented at Imphal Treasury seven days before the last working day of the month.

[Vide Government of India, Ministry of Finance (Department of Economic Affairs) No. 10(20)-B/61, dated 9th June 1961; Dy. TM/1028; filed in Btc. TM/23-3 of 1961-62.]

R. S. MAUNDER,
Dy. Accountant-General (Administration).

OFFICE OF THE POSTMASTER-GENERAL, WEST BENGAL CIRCLE

NOTIFICATION

No. SFA/A-207.—20th June 1961.—Shri S. M. Banerjee, Assistant Engineer (in Telegraph Engineering and Wireless Service—Class II), is granted earned leave for twelve days with effect from the 12th June 1961 with permission to prefix holiday on the 10th June 1961 and Sunday, the 11th June 1961, and to suffix holiday on the 24th June 1961 and Sunday, the 25th June 1961.

MADAN KISHORE,
Postmaster-General.

ORDERS AND NOTIFICATIONS BY COMMISSIONERS OF DIVISIONS

Burdwan Division—Chinsura

No. 1698J.G.—18th June 1961.—In accordance with the provisions of rule 56(1) of chapter IV of the Bengal Jail Code, volume I, seventh edition, I hereby appoint Shri Kali Charan Ghosh, M.L.C., to be a non-official Visitor in the Chandernagore sub-jail in the district of Hooghly for a period of one year with effect from the date of this notification.

I. B. SURITA, Commissioner.

Burdwan, the 21st June 1961.

In exercise of the power conferred by proviso to sub-paragraph 1 of paragraph 11 of the West Bengal Soft Coke Distribution Order, 1955, I do hereby extend up to 30th June 1961 the validity of all licenses issued in Sadar subdivision of this district for the year 1960-61 under paragraphs 6, 7 and 8 of the said order.

A. K. DUTT,
District Magistrate.

OFFICE OF THE DISTRICT PANCHAYAT OFFICER, MIDNAPORE

NOTIFICATION

No. 1560C.P.—23rd June 1961.—It is hereby notified for general information that the following persons have been duly elected as members of the Anchal Panchayats noted below in Mayna police-station:—

Mayna Anchal Panchayat

1. Shri Abul Hossen Mullick.
2. Shri Abdul Rahaman Khan.
3. Shri Refat Khan.
4. Shri Joytirmayananda Bahubalindra.
5. Shri Dharani Maity.
6. Shri Bana Behari Das.
7. Shri Monindranath Maji.
8. Shri Bhim Charan Maity.
9. Shri Monindranath Bhowmik.
10. Shri Sasankasekhar Maity.
11. Shri Mritunjoy Bhowmik.
12. Shri Madhab Chandra Das.
13. Shri Harakali Bhattacharjee.
14. Shri Kshudiram Das.
15. Shri Kshudiram Kuily.
16. Shri Golam Rasul Khan.
17. Shri Naresh Chandra Maity.
18. Shri Bishnupada Gantait.
19. Shri Gnanendranath Bhowmik.
20. Shri Atul Chandra Maity.
21. Shri Parameswar Das.
22. Shri Anil Chandra Singh.
23. Shri Gobinda Prasad Dolai.
24. Shri Gopal Mondal.
25. Shri Bhimacharan Maity.
26. Shri Abinash Maity.
27. Shri Troilakya Mani.
28. Shri Bhupati Maity.

3. Shri Sadananda Bera.
4. Shri Kartik Chandra Maj
5. Shri Surendranath Maity.
6. Shri Monindranath Das.
7. Shri Haripada Das.
8. Shri Radhanath Jana.
9. Shri Kshirode Chandra Bh
10. Shri Gour Hari Maity.
11. Shri Gnanendranath Bera.
12. Shri Upendranath Das.
13. Shri Chintamani Adhikary
14. Shri Rejabal Haque.
15. Shri Layakat Hossein.
16. Shri Jafer Ali.
17. Shri Noni Gopal Choudhu

Srikantha Anchal P

1. Shri Amulyacharan Pattan
2. Shri Alauddin Sk.
3. Shri Patit Paban Maity.
4. Shri Sateswar Maity.
5. Shri Harkali Bhattacharje
6. Shri Gour Hari Quilya.
7. Shri Bhusan Adhikary.
8. Shri Soid Moin Khandak
9. Shri Satish Pattanayak.
10. Shri Bhusan Jana.
11. Shri Sanatan Jana.
12. Shri Krishnadas Pradhan.
13. Shri Panchanan Jana.
14. Shri Sabiruddin.
15. Shri Gostha Behari Monda
16. Shri Irsad Ali.
17. Shri Nagendranath Das.

Gokulnagar Anchal Pan

1. Shri Abinash Hatoi.
2. Shri Prabhas Maity.
3. Shri Kalipada Bera.
4. Shri Bhuban Maity.
5. Shri Motilal Mondal.
6. Shri Jogendra Samanta.
7. Shri Kalipada Maji.
8. Shri Bankim Behari Sam
9. Shri Bishnupada Samanta
10. Shri Sudhir Kumar Ghor
11. Shri Rakhal Chandra Ra
12. Shri Paban Chandra Pra
13. Shri Din Mahammad.
14. Shri Bhuban Chandra Te
15. Shri Abdud Daian.
16. Shri Gour Hari Bhowmik
17. Shri Beharilal Paul.
18. Shri Jotindranath Bhow
19. Shri Prahallad Das.

ndranath Samanta.
ash Barman.
an Chandra Das.
ada Jana.
Das.
Kishore Das.
h Pradhan.
ati Maity.
lnath Maity.
Behari Hazra.
Das.
dranath Maity.
rishna Samanta.

ak Anchal Panchayat

nath Mal.
ndranath Bhunia.
idananda Maity.
Toru Bera.
dra Hait.
Das.
har Jana.
liram Guchhait.
handra Manna.
anath Manna.
dranath Das.
ada Mondal.
ri Mohan Das.
ashyam Maity.
Gobinda Guchhait.
jan Maji.
Samanta.
Bhusan Bar.

a Anchal Panchayat

llad Maity.
a Kanta Maity.
upada Jana.
Chandra Mondal.
na Prasad Bera.
dra Nayak.
anda Mondal.
anda Mondal.
da Maity.
khira.
dra Barai.
ugshu Mondal.
ni Das.
osh Maity.
aranjan Jana.

2. Shri Bhutnath Bhunia.
3. Shri Upendranath Mondal.
4. Shri Khagen Mondal.
5. Shri Gadadhar Roul.
6. Shri Girish Bera.
7. Shri Pashupati Misra.
8. Shri Surendra Bhunia.
9. Shri Iswar Bar.
10. Shri Gunadhar Bar.
11. Shri Saktidhar Manna.
12. Shri Basudev Barai.
13. Shri Rampada Tati.
14. Shri Sanatan Barman.
15. Shri Kowtuk Bag.
16. Shri Kowtuk Barai.
17. Shri Pitambar Barman.
18. Shri Nibaran Gantha.
19. Shri Banamali Bhunia.
20. Shri Bipin Dey.
21. Shri Mahadev Baroi.
22. Shri Bishnu Paramanik.
23. Shri Bankim Patra.
24. Shri Matilal Mondal.
25. Shri Sadhan Patra.
26. Shri Sudhir Maity.

Naichhanpur Anchal Panchayat

1. Shri Kanailal Dhara.
2. Shri Dhirendranath Bal.
3. Shri Rakhal Chandra Santra.
4. Shri Samsed Ali.
5. Shri Binode Pramanik.
6. Shri Rajani Maity.
7. Shri Dharani Maity.
8. Shri Panchanan Das.
9. Shri Bholanath Barman.
10. Shri Monoranjan Das.
11. Shri Iswar Chandra Jana.
12. Shri Kunja Mondal.
13. Shri Jiban Jana.
14. Shri Banamali Pramanik.
15. Shri Haripada Patra.
16. Shri Sarat Chandra Mondal.
17. Shri Kunja Behari Maity.
18. Shri Haren Jana.
19. Shri Pashupati Adhikary.
20. Shri Krishnadas Mondal.
21. Shri Himangshu Sekhar Das.
22. Shri Rash Behari Bera.
23. Shri Jiban Chandra Hazra.

K. M. RAY

No. 1562C.P.—23rd June 1961.—It is hereby notified for general information that the following persons have been duly elected as Pradhans and Upa-Pradhans of the Anchal Panchayats noted below in Moyna police-station:—

Moyna Anchal Panchayat.

Shri Gnanendranath Bhowmic, Pradhan.
Shri Naresh Chandra Maity, Upa-Pradhan.

Tilkhoja Anchal Panchayat.

Shri Manindranath Das, Pradhan.
Shri Rezaball Haque, Upa-Pradhan.

Srikantha Anchal Panchayat.

Shri Harakali Bhattacharjee, Pradhan.
Shri Satish Pattanayak, Upa-Pradhan.

Gokulnagar Anchal Panchayat.

Shri Kalipada Maji, Pradhan.
Shri Jogendranath Samanta, Upa-Pradhan.

Ramchak Anchal Panchayat.

Shri Ashoke Toru Bera, Pradhan.
Shri Kalipada Mondal, Upa-Pradhan.

Gojina Anchal Panchayat.

Shri Ashutosh Maity, Pradhan.
Shri Bishnupada Jana, Upa-Pradhan.

Bakcha Anchal Panchayat.

Shri Sanatan Barman, Pradhan.
Shri Bankim Patra, Upa-Pradhan.

Naichhanpur Anchal Panchayat.

Shri Rakhal Ch. Santra, Pradhan.
Shri Jiban Jana, Upa-Pradhan.

K. M. RAY,
District Panchayat Officer.

Orders by the Deputy Inspector-General of Police
Western Range

No. 6575.—16th June 1961.—**Purulia-G.R.P., Howrah.**—Notification No. 1386, dated 17-2-1961, published in the "Calcutta Gazette", dated 9-3-1961 in so far as it relates to the transfer of Sarvashri Bhupati Nath Banerji, Inspr., Purulia, and Jnanesh Chandra Dutta Chowdhury, Inspr., G.R.P., Howrah, to G.R.P., Howrah and Purulia, respectively, is cancelled.

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fied under section 50 of the Ben
1932 (Bengal Act XV of 1932),
Chandra Ghosh and Shri Hire
elected Chairman and Vice-Chai
of the Naihati Municipality in
Parganas on 15th May 1961.

No. 891/R.G.—26th June
Haran Sen Gupta, Block
Beldanga I, Murshidabad, is
Officer (ex-officio) in respect of
ment Block, Murshidabad, in
duties during the period of ab
Shri Chittaranjan Sen Majum

K. C. BAS

Presidency Division

OFFICE OF THE DISTRIC
OFFICER, COOC

No. G/5645/XXX-6.—22nd
hereby notified for general in
following persons have bee
Pradhans and Upa-Pradhans
Panchayats noted below in
station:—

Falimari Anchal Pa

Shri Naresh Chandra Mullick
office Falimari, Pradhan.
Shri Heramba Chandra Das,

Rampur Anchal Pa

Shri Tarani Mohan Sarkar,
Shri Jogesh Chandra Chand

Mahishcuchi Anchal

Shri Jamini Kr. Sarkar, Pra
Shri Digendra Chandra Saha

Bhanukumari Anchal

Shri Raj Kumar Sarkar, Pr
Shri Ramananda Prodhan,

Barakodali Anchal P

Shri Amulya Sen Isore, Prad
Shri Jogesh Chandra Sarkar

Balarampur Anchal

Shri Kamalendra Narayan,
Shri Gour Chandra Roy, Up

Deocharai Anchal P

Shri Nagendra Nath Bepari,
Shri Nizabuddin Ahmed, Up

Marugunj Anchal P

Shri Prana Nath Biswas,
Shri Lalit Chandra Roy, Upa

Chilakhana Anchal

Shri Fazlur Rahaman, Prad
Shri Parbananda Barman,

Natabari Anchal Pa

rayan Mandal, Upa-Pradhan.

i Anchal Panchayat.

ath Patowari, Pradhan.
ndal, Upa-Pradhan.

lbari Anchal Panchayat.

Nath, Pradhan.
Roy, Upa-Pradhan.

ach Anchal Panchayat.

handra Roy, Pradhan.
Mia, Upa-Pradhan.

J. C. SINHA,
District Panchayat Officer.

XX-8.—22nd June 1961.—It is r general information that the have been duly elected as nchal Panchayats noted below in tation:—

ri Anchal Panchayat.

ulla Sarkar
dra Nath Roy
shwar Deb Nath
Kanta Roy
k Chandra Adhikary
Charan Roy
Chandra Roy
ta Kr. Roy
Mohan Roy
dra Nath Roy
h Chandra Roy
dra Nath Roy
Chandra Roy
a Nath Barman
uddin Miah
lish Chandra Roy

lkadabri Anchal Panchayat.

ar Roy Chowdhury
Nath Roy
Barman
endra Barman
dra Narayan Barman
Lal Singha Sarkar
dra Roy Dakua
dra Nath Roy
dra Nath Singha Sarkar
anda Singha Sarkar
endra Nath Roy
Kr. Roy Chowdhury

at Anchal Panchayat.

Uddin Mahammad
ddin Mahammad
nalla
adra Barman
dra Nath Roy
ek Barman.
nahan Barman
ath Sil Sarma
indra Nath Chowdhury
sh Chandra Roy
dra Nath

2. Shri Kasem Ali Mahammed
3. Shri Narendra Nath Barman
4. Shri Sarbeswar Barman
5. Shri Gadila Adhikary
6. Shri Mafizuddin Mahammed
7. Shri Surya Mohan Barman
8. Shri Sitanath Singha Sarkar
9. Shri Chabaruddin Mahammed

Changrabandha Anchal Panchayat

1. Shri Pran Ballav Ghosh
2. Shri Ganendra Nath Ghosh
3. Shri Bamkim Chandra Sarkar
4. Shri Jogan Nath Prosad Kanu
5. Shri Kanti Pada Singha
6. Shri Pran Nath Roy
7. Shri Abu Taleb Prodhan.
8. Shri Osman Goni
9. Shri Azendra Barman
10. Shri Deb Kanta Roy Sarkar
11. Shri Chepu Mahammed
12. Shri Bazley Karim Rahaman
13. Shri Ram Prem Barman
14. Shri Ananta Deb Adhikary
15. Shri Jagat Chandra Barman
16. Shri Aphizar Rahaman Prodhan

Ranirhat Anchal Panchayat.

1. Shri Mantu Roy
2. Shri Biswa Nath Roy Chowdhury
3. Shri Jyotish Chandra Roy Chowdhury
4. Shri Rani Dhan Goswami
5. Suchangshu Mohan Ghosh
6. Shri Prokash Ch. Basu-Mia
7. Shri Gopal Ch. Mitra
8. Shri Rup Chandra Roy
9. Shri Sarat Chandra Barman
10. Shri Lalu Roy
11. Shri Thelthela Barman
12. Shri Ananta Roy Prodhan
13. Shri Glok Chandra Roy
14. Shri Khagen Roy

Uchalpukuri Anchal Panchayat

1. Shri Subodh Chandra Barman
2. Shri Ramesh Chandra Barman
3. Shri Madan Barman
4. Shri Gobindra Chandra Barman
5. Shri Nagendra Nath Sarkar
6. Shri Raj Kanta Adhikary
7. Shri Upendra Roy
8. Shri Jogendra Nath Barman
9. Shri Akshoy Kumar Roy
10. Shri Priya Nath Roy
11. Shri Jitendra Nath Roy Prodhan
12. Shri Basu Barman
13. Shri Batu Barman
14. Shri Bhabendra Nath Barman
15. Shri Monakanta Roy
16. Shri Nalini Kanta Roy
17. Shri Kashem Ali Mahammed

2. Shri Narendra Barman Dakua
3. Shri Bhabendra Nath Barman
4. Shri Madhu Sudan Padhadhar
5. Shri Raman Mohan Barman
6. Shri Nripendra Nath Roy Majhi
7. Shri Surendra Nath Roy Dakua
8. Shri Ghengaru Barman
9. Shri Vidyasagar Singha
10. Shri Topsiprasad Sing
11. Shri Manindra Kr. Ghose
12. Shri Mal Chand Gebra
13. Shri Muluk Chand Karjee
14. Shri Banikanta Roy Basumia
15. Shri Charu Chandra Roy Sarkar
16. Shri Agendra Nath Barman

J. C. SINHA,
District Panchayat Officer.

No. G/5643/XXX-8.—22nd June 1961.—It is hereby notified for general information that the following persons have been duly elected as Prodhans and Upa-Prodhans of the Anchal Panchayats noted below in Mekliganj police-station:—

Kuchlibari Anchal Panchayat

Shri Ragendra Nath Roy, Pradhan.
Shri Birendra Nath Roy, Upa-Pradhan.

Bagdokra Fulkadabri Anchal Panchayat

Shri Peskar Roy Chowdhury, Pradhan.
Shri Jogendra Nath Roy, Upa-Pradhan.

Niztaraf Anchal Panchayat

Shri Kalindra Nath Roy, Pradhan.
Shri Rati Mohan Barman, Upa-Pradhan.

Bhotebari Anchal Panchayat

Shri Sarbeswar Barman, Pradhan.
Shri Mafizuddin Mahammed, Upa-Pradhan.

Changrabandha Anchal Panchayat

Shri Prana Nath Roy, Pradhan.
Shri Bamkim Chandra Sarkar, Upa-Pradhan.

Ranirhat Anchal Panchayat

Shri Jyotish Chandra Roy Chowdhury, Pradhan.
Shri Lalu Roy, Upa-Pradhan.

Uchalpukuri Anchal Panchayat

Shri Bhabendra Nath Barman, Pradhan.
Shri Nagendra Nath Sarkar, Upa-Pradhan.

Jamaldah Anchal Panchayat

Shri Vidyasagar Singh, Pradhan.
Shri Agendra Nath Barman, Upa-Pradhan.

No. 645PAN/SP/X-11/61.—
is hereby notified for general i
following persons have been
Pradhan and Upa-Pradhans of t
yats noted below in Kalimpong

Samthar Anchal Pan

Shri Lethop Lama, Pradhan.
Shri Sathp Temba Fudung, U

Pudung-Echhay Anchal

Shri Barsin Lepcha, Pradhan
Shri Sonam Wangdi Bhutia,

Sindipong Anchal Pa

Shri P. M. Prodhan, Pradha
Shri B. B. Prodhan, Upa-Prad

Nimbong Anchal Pa

Shri Parmananda Lepcha, Pr
Shri Nesing Lepcha, Upa-Pr

Kalimpong Anchal Pa

Shri Tikaram Burman, Pradh
Shri Rakhal Chandra Talukda

Samlbong Anchal Pa

Shri Ran Bahadur Gurung, P
Shri Birman Lama, Upa-Prad

Seokbir Anchal Pa

Shri Harkabahadur Lama, P
Shri Lal Bir Lama, Upa-Prad

Bhalukhop Dr. Graham's Home

Shri P. R. Prodhan, Pradhan
Shri L. T. Simick, Upa-Prad

Bong-Dungra Anchal

Shri Kharananda Sharma, Pr
Shri B. K. Subba, Upa-Pradh

[1

Block Develop
ex-officio Inspe
Dev

ORDERS

/E/118/59-60.—20th June 1961.
kar, Income-tax Officer, Class I,
ers of transfer to West Bengal
Board of Revenue's order
VI, dated 22nd May 1961, is,
ne date he reports here for duty,
ax Officer, "A" Ward, Howrah,
N. Jhingon, Income-tax Officer,
ah of the additional charge.

Basu, Income-tax Officer, Class I,
ers of transfer to West Bengal
tral Board ot Revenue's above
ect from the date he reports here
s Income-tax Officer, "A" Ward,
ircle VIII, Calcutta, vice Shri
come-tax Officer, transfrred.

Shri Md. Zakariah, Income-tax
rred and posted as Income-tax
ard, Howrah, vice Shri P. N.
red.

Shri P. N. Jhingon, Income-tax
rred and posted as Income-tax
ard, Companies District III,
ing Shri Jadunath Prasad,
r, "I" Ward, Companies Dis-
dditional charge.

ls item 26 of this office order
E/118/59-60, dated the 17th
erring Shri G. F. Das Gupta as
r, "J" Ward, Companies District

K. Naha, Income-tax Officer,
Duty attached to the office of
of Income-tax, West Bengal,
te effect, posted as Income-tax
ment, attached to the office of
of Income-tax, West Bengal,
B. Chand, Income-tax Officer,
est Bengal, of the additional
ge of the Officer on Special Duty
d.

h, Income-tax Officer. Class I,
rs of transfer to West Bengal
ral Board of Revenue's above
ffect from the date he reports
sted as Income-tax Officer, "J"
District I. Calcutta. vice Shri
ne-tax Officer, transferred.

he services of Shri B. R. Sant,
are placed at the disposal of the
ncome-tax, Calcutta.

Mathur, Income--tax Officer,
der orders of transfer to West
de Central Board of Revenue's
with effect from the date he
ty, posted as Income-tax Officer,
mpanies District I, Calcutta,
N. Rotho

11. Shri H. K. Mukharji, Income-tax Officer, Class I, who is under orders of transfer to West Bengal charge, vide Central Board of Revenue's order referred to above, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "I" Ward, Companies District I, Calcutta, vice Shri D. K. Ghosh. Income-tax Officer. transferred.

12. On relief, Shri D. K. Ghosh, Income-tax Officer, is transferred and posted as Income-tax Officer, "B" Ward, Estate Duty-cum-Income-tax Circle, Calcutta, vice Shri K. B. Mukherjee, Income-tax Officer, transferred.

13. On relief, Shri K. B. Mukherjee, Income-tax Officer, is transferred and posted as Income-tax Officer, "B" Ward, Project Circle-I, Calcutta, relieving Shri G. P. Gupta, Income-tax Officer, "A" Ward of the district, of the Additional charge.

14. Shri R. P. Dobe, Income-tax Officer, "B" Ward, Cinema Circle I, Calcutta, who is also holding the charge of "B" Ward, Non-Companies District I, in addition to his own, is, with immediate effect, posted as Income-tax Officer, "B" Ward, Non-Companies District I, Calcutta. Shri Dobe will, in addition to his own duties, continue to hold the charge of Income-tax Officer, "B" Ward, Cinema Circle I, until relieved by Shri R. N. Neogi.

15. On return from leave, Shri R. N. Neogi, Income-tax Officer, is posted as Income-tax Officer, "B" Ward, Cinema Circle I, Calcutta, relieving Shri R. B. Dobe, Income-tax Officer, "B" Ward, Non-Companies District I, Calcutta, of the additional charge.

16. Shri K. K. Vidyarathi, Income-tax Officer, Class I, who is under orders of transfer to West Bengal Charge, vide Central Board of Revenue's above order, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "A" Ward, District III(1), Calcutta, relieving Shri S. Y. Rajapandhare, Income-tax Officer, "D" Ward of the district, of the additional charge.

17. Shri R. I. Chadha, Income-tax Officer, Class I, who is under orders of transfer to West Bengal Charge, vide Central Board of Revenue's order referred to above, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "E" Ward, District III(1), Calcutta, relieving Shri Anand Singh, Income-tax Officer, "K" Ward, of the District of the additional charge.

18. Shri R. R. Chari, Income-tax Officer, Class I, whose services have been placed at my disposal by the Commissioner of Income-tax, Calcutta, is, with effect from the date he reports here for duty, is posted as Income-tax Officer, "A" Ward, District III(3), Calcutta, relieving Shri F. J. Bahadur, Income-tax Officer, "B"

with effect from the date he reports for duty here, posted as Income-tax Officer, "E" Ward, District VI, Calcutta, vice Shri C. P. Roy, Income-tax Officer, transferred.

20. On relief, Shri C. P. Roy, Income-tax Officer, is transferred and posted as 2nd Additional Income-tax Officer, Special Investigation Branch, Calcutta, vice Shri N. K. Mitra, transferred.

21. On relief Shri N. K Mitra, is transferred and posted as Income-tax Officer, "F" Ward, District IIIA, Calcutta, relieving Shri A. K. Banerjee, Income-tax Officer, "A" Ward, District IIIA, of the additional charge.

22. Shri N. K. Shastri, Income-tax Officer, "M" Ward, Companies District I, Calcutta, is with immediate effect, transferred and posted as Income-tax Officer, "B" Ward of the District, relieving Shri K. Raha, Income-tax Officer, "A" Ward of the District, of the additional charge. Shri Shastri will continue, in addition to his own duties, to hold the charge of Income-tax Officer, "M" Ward, Companies District I, until relieved by Shri V. R. Hiremath.

23. On return from leave, Shri V. R. Hiremath, Income-tax Officer, is posted as Income-tax Officer, "M" Ward, Companies District I, Calcutta, relieving Shri N. K. Shastri, Income-tax Officer, "B" Ward of the District, of the additional charge.

24. On return from leave Shri B. Venkataratnam, Income-tax Officer, is posted as Income-tax Officer, "D" Ward, Companies District I, Calcutta, relieving Shri O. F. Bharadwaj, Income-tax Officer, "E" Ward of the District, of the additional charge.

25. Shri S. Mazumdar, Income-tax Officer, Class I, whose services have been placed at my disposal by the Commissioner of Income-tax, Calcutta, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "C" Ward, Refund Circle, Calcutta, vice Shri H. Banerjee, transferred.

26. On relief, the services of Shri H. Banerjee, Income-tax Officer, Class I, are placed at the disposal of Commissioner of Income-tax, Calcutta.

27. Shri M. Sarkar, Income-tax Officer, whose services have been placed at my disposal by the Commissioner of Income-tax, Calcutta, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "D" Ward, District II(2), Calcutta, relieving Shri K. S. Rao, Income-tax Officer, "E" Ward of the District, of the additional charge.

28. On return from leave, Shri S. K. Das, Income-tax Officer, is posted as Income-tax Officer, "B" Ward, Foreign Section, Calcutta, vice Shri S. K. De, Income-tax Officer, transferred.

29. On relief, the services of Shri S. K. De, Income-tax Officer, are placed at the disposal of

relieving Shri B. Nagarajan,
"F" Ward of the District,
charge.

31. Shri Birbal Ch.
Officer, "B" Ward, Special
Calcutta, is, with immediat
addition to his own, appointed
of Income-tax Officer, "C"
Circle, vice Shri G. P. Mukh
tax Officer, transferred.

32. On relief, Shri G.
Income-tax Officer, is transfer
Income-tax Officer, "J" War
Calcutta, vice Shri P. K.
tax Officer, transferred.

33. On relief, Shri P. K.
tax Officer, is transferred and
tax Officer, "D" Ward, Ho
vice Shri Banipati Sanyal,
transferred.

34. On relief, Shri Banipati
tax Officer, is transferred and
tax Officer, "C" Ward, 24-Par
S. B. Bhattacharjee, Income-
ferred.

35. On relief, Shri S.
Income-tax Officer, is transfer
Income-tax Officer, "G" Wa
Calcutta, vice Shri A. R.
Officer, transferred.

36. On relief, Shri A. R.
Officer, is transferred and post
Officer, "B" Ward, District
vice Shri F. J. Bahadur, trans

37. On relief, the servi
Bahadur, Income-tax Officer,
at the disposal of the Comm
tax, Calcutta.

38. Shri D. C. Dutta,
whose services have been pla
by the Commissioner of Incom
with effect from the date h
duty, posted as Income-tax
District VI, Calcutta, vice
Income-tax Officer, transferred

39. On relief, Shri A. K.
tax Officer, is transferred and
tax Officer, "C" Ward, Project
relieving Shri T. N. Seetha
Officer, "D" Ward, Project C
tional charge.

40. Shri S. P. Chaudhury,
Assessment is, in addition
appointed to hold the charge
Officer, Income-tax Departme

udhury, Income-tax Officer,
additional charge.

Shri P. C. Das, Income-tax
transferred and posted as
"A" Ward, District IIIA,
A. K. Banerjee, Income-tax

hri A. K. Banerjee, Income-
, is transferred and posted as
"B" Ward, 24-Parganas,
padhaya, Income-tax Officer,

hri H. V. Upadhaya, Income-
sferred and posted as Income-
ard, District IIIA, Calcutta,
aranandi, Income-tax Officer,

om leave, Shri R. Paranandi,
is posted as Income-tax Officer,
al Salaries Circle, Calcutta,
. F. Sen, Income-tax Officer,
Salaries Circle, of the addi-

rom leave Shri B. K. Sarkar,
is posted as Income-tax Officer,
rganas, vice Shri A. B. Sri-
x Officer, transferred.

hri A. B. Srivastava, Income-
sferred and posted as Income-
ard, District III(1), Calcutta,
agarajan, Income-tax Officer,
District, of the additional

Roy Chowdhury, Income-tax
o is under orders of transfer to
rge, vide Central Board of
order is, with effect from the
e for duty, posted as Income-
ard, Companies District III,
K. B. Narasimham, Income-
erred. Shri Roy Choudhury
ddition to his own duties, the
tax Officer, "F" Ward, Com-
Calcutta, relieving Shri K. B.
e additional charge.

rom leave, Shri S. S. Reddy,
is posted as Income-tax Officer,
anies District III, Calcutta,
. Roy Choudhury, Income-tax
of the District, of the addi-

Shri K. B. Narasimham,
is transferred and posted as
"D" Ward, N.C.I., Calcutta,
F. Chaudhury, Income-tax
Cinema Circle I, Calcutta,

the charge of Income-tax Officer, Asansol, vice Shri H. M. Chaudhury, Income-tax Officer, transferred.

52. On relief, the services of Shri H. M. Choudhury, Income-tax Officer, are placed at the disposal of the Commissioner of Income-tax, Calcutta.

53. On return from leave, the services of Shri K. M. Rath, Income-tax Officer, are placed at the disposal of the Commissioner of Income-tax, Calcutta.

54. On return from leave, the services of Shri M. F. Agarwal, Income-tax Officer, Class I (Prob.), are placed at the disposal of the Commissioner of Income-tax, Calcutta.

55. The services of Shri G. B. Seth and Shri A. M. Das, Income-tax Officers, who have been transferred to West Bengal, under Board's order F.No. 57/1/61-Ad.VI, dated 22nd May 1961, are placed at the disposal of the Commissioner of Income-tax, Calcutta.

No. E/8696C.T./E/118/59-60. — 19th June 1961.—On return from leave and with effect from the afternoon of the 15th June 1961, Shri A. B. Chakraborty, Income-tax Officer, has taken over charge as Income-tax Officer, "A" Ward, 24-Parganas, vice Shri A. B. Srivastava, Income-tax Officer, transferred.

2. On relief and with effect from the afternoon of 15th June 1961, Shri A. B. Srivastava, Income-tax Officer, is transferred and posted as Income-tax Officer, "D" Ward, 24-Parganas, vice Shri S. C. Chakraborty, Income-tax Officer, retired.

3. On relief, Shri S. C. Chakraborty, Income-tax Officer, is allowed to retire on attaining the age of superannuation with effect from the afternoon of the 15th June 1961.

No. A/c.8900C.T./2E/8/61-62.—20th June 1961.—Shri S. S. K. Rapaj, Income-tax Officer, "C" Ward, District IIIA, Calcutta, is allowed, under the Revised Leave Rules, 1933, earned leave for 30 days with effect from 9th May 1961 to 7th June 1961, with permission to prefix Sunday and holiday on 7th May 1961 and 8th May 1861, respectively, to the leave.

It is certified that the Officer was likely to return, on the expiry of his leave, to the post from which he proceeded on leave or to a post carrying similar rates of allowances.

No. A/c.9244C.T./2E/44/59-60.—16th June 1961.—Shri D. C. Rajagopalan, Income-tax Officer, "H" Ward, District I(1), Calcutta, is allowed, under the Revised Leave Rules, 1933, earned leave for 60 days with effect from 5th June 1961 to 3rd August 1961, with permission to prefix Sunday on 4th June 1961 to the leave.

similar rates of allowances.

No. A/c.9322C.T./2E/15/61-62.—23rd June 1961.—Shri M. C. Chanda, Income-tax Officer, "E" Ward, District II(1), Calcutta, is allowed, under the Revised Leave Rules, 1933, earned leave for 60 days with effect from 24th April 1961 to 22nd June 1961, with permission to prefix Sunday on 23rd April 1961 to the leave.

No. A/Cs.7981C.T./2E/86/60-61.—15th June 1961.—Shri K. C. Srivastava, Income-tax Officer, "A" Ward, Non-company I, Calcutta, is allowed, under the Revised Leave Rules, 1933, earned leave for 60 days with effect from 9th May 1961 to 7th July 1961, with permission to prefix Sunday and holiday on 7th May 1961 and 8th May 1961 and affix closed Saturday and Sunday on 8th July 1961 and 9th July 1961, respectively, to the leave.

It is certified that the Officer is likely to return, on the expiry of his leave, to the post from which he proceeded on leave or to a post carrying similar rates of allowances.

No. A/c.8809C.T./2E/119/60-61.—20th June 1961.—In continuation of this office order No. A/c. 6044/C.T./2E/119/60-61, dated 31st May 1961, Shri K. C. Mahadevan, Authorised Representative, Income-tax Appellate Tribunal, Calcutta Bench, Calcutta, is allowed, under the Revised Leave Rules, 1933, an extension of commuted leave for 29 days with effect from 29th April 1961 to 27th May 1961, with permission to affix Sunday on 28th May 1961 to the leave.

It is certified that the Officer was likely to return, on the expiry of his leave, to the post from which he proceeded on leave or to a post carrying similar rates of allowances.

No. E/9144C.T./2E/17/61-62.—23rd June 1961.—Shri G. P. Gupta, Income-tax Officer, "A" Ward, Project Circle I, Calcutta, is, with effect from the forenoon of the 19th June 1961 and in addition to his own duties, appointed to hold the charge of the Income-tax Officer "B" Ward of the same District during the absence on leave of Shri R. N. Neogi.

No. E/9145C.T./2E/33/58-59.—23rd June 1961.—Shri Amaresh Bagchi, Income-tax Officer, "F" Ward, Estate Duty Circle, Calcutta, is, with effect from the afternoon of the 17th June 1960 and in addition to his own duties, appointed to hold the charge of the Income-tax Officer, "A" Ward of the same District during the absence on leave of Shri V. V. S. Sastry.

2. On return from leave, Shri V. V. S. Sastry, Income-tax Officer, will be posted as Income-tax Officer, "A" Ward, Estate Duty Circle, Calcutta, relieving Shri Amaresh Bagchi, Income-tax Officer, "A" Ward, Estate Duty Circle, of the additional

effect from the afternoon of
addition to his own duties, ap
charge of the Income-tax Office
same District during the absen
Chitta Ranjan Sen.

2. On return from leave,
Sen, Income-tax Officer will
Tax Officer, "K" Ward, Com
Calcutta, relieving Shri A. K.
Officer, "L" Ward, Comp
Calcutta, of the additional cha

P. T. RANAD

OFFICE OF THE COMM
INCOME-TAX, CA

ORDERS

No. A/c.8713C.T./2E/154/
1961.—Shri N. Kanungo,
Commissioner of Income-tax,
is allowed, under the Revised
earned leave for 46 days with
1961 to 17th June 1961, with
Sunday on 18th June 1961 to

It is certified that the Officer
on the expiry of his leave to
he proceeded on leave or to a
rates of allowances.

No. E/8787C.T./2E-5/59-60
1961.—(1) Shri G. B. Seth,
whose services have been place
the Commissioner of Income-ta
with effect from the date he re
posted as Income-tax Officer,
IV(2), relieving Shri A. Sava
Officer, "B" Ward of the Distr
charge.

(2) Shri A. K. Sanyal, Inco
Ward, District II(1), is, wi
and in addition to his own duti
by Shri H. C. Sharma, Income-t
to hold the charge of Incom
Ward, District II(1), vice S
krishnan, Income-tax Officer,

(3) On relief, Shri P.
Income-tax Officer, is transfe
Income-tax Officer, "B" Ward
IV, vice Shri H. C. Sharma,
transferred.

(4). On relief, Shri H. C.
Officer, is transferred and pos
Officer, "A" Ward, District
A. K. Sanyal, Income-tax

fficer, "A" Ward, District I(2),
hari, Income-tax Officer, transfer-

the services of Shri R. R. Chari,
r, are placed at the disposal of the
come-tax, West Bengal.

. Das, Income-tax Officer, whose
en placed at my disposal by the
Income-tax, West Bengal, is,
the date he reports here for duty,
e-tax Officer, "G" Ward, District
V. P. Aggarwal, Income-tax
ed.

Shri V. P. Aggarwal, Income-tax
ferred and posted as Income-tax
ard, District V(1), vice Shri
ome-tax Officer, transferred.
Shri M. S. Mann, Income-tax
erred and posted as Income-tax
ard, District I(1), relieving Shri
Income-tax Officer, "C" Ward of
ct, of the additional charge.

N. Das, Income-tax Officer, "K"
V(1), is, with immediate effect and
own duties and until relieved by
appointed to hold the charge of
er, "J" Ward, District V(1),
Majumdar, Income-tax Officer,

the services of Shri S. Majumdar,
er, are placed at the disposal of
of Income-tax, West Bengal.

R. Sant, Income-tax Officer, whose
en placed at my disposal by the
Income-tax, West Bengal, is, with
date he reports here for duty,
-tax Officer, "J" Ward, District
Shri H. N. Das, Income-tax
ard of the same District, of the

J. Bahadur, Income-tax Officer,
have been placed at my disposal by
of Income-tax, West Bengal, is,
the date he reports here for duty,
e-tax Officer, "I" Ward, District
D. C. Dutta, Income-tax Officer,

the services of Shri D. C. Dutta,
er, are placed at the disposal of
of Income-tax, West Bengal.

S. Dhusia, Income-tax Officer,
have been placed at my disposal by
of Income-tax, West Bengal, is,
the date he reports for duty here,
ax Officer, "I" Ward, Companies
Shri K. D. Income-

Ward of the same District, of the additional charge.

(17) Shri H. Banerjee, Income-tax Officer, whose services have been placed at my disposal by the Commissioner of Income-tax, West Bengal, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "H" Ward, District I(1), vice Shri P. S. Gambhir, Income-tax Officer, transferred.

(18) On relief, Shri P. S. Gambhir, Income-tax Officer, is transferred and posted as Income-tax Officer, "H" Ward, District V(1), relieving Shri M. K. Mitra, Income-tax Officer, "C" Ward of the same District, of the additional charge.

(19) Shri Shankar Kumar Banerjee, Income-tax Officer, "B" Ward, S.S.C. II, is, with immediate effect and in addition to his own duties and until further orders, appointed to hold the charge of the Income-tax Officer, "C" Ward of the same circle, vice Shri M. Sarkar, Income-tax Officer, transferred.

(20) On relief, the services of Shri M. Sarkar, Income-tax Officer, are placed at the disposal of the Commissioner of Income-tax, West Bengal.

(21) Shri Sanat K. De, Income-tax Officer, whose services have been placed at my disposal by the Commissioner of Income-tax, West Bengal, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "B" Ward, District IV(3), relieving Shri N. N. Mistri, Income-tax Officer, "G" Ward of the same District, of the additional charge.

(22) Shri M. P. Aggarwal, Income-tax Officer, whose services have been placed at my disposal by the Commissioner of Income-tax, West Bengal, is, with effect from the date he reports here for duty, posted as Income-tax Officer, "B" Ward, District V-A, vice Shri B. M. Das Gupta, Income-tax Officer, transferred.

(23) On relief, the services of Shri B. M. Das-Gupta, Income-tax Officer, are placed at the disposal of the Commissioner of Income-tax, West Bengal.

No. E/8861C.T./2E-16/60-61.—21st June 1961.—On return from leave, Shri Mahendra Singh, Income-tax Officer, is posted as Income-tax Officer, "E" Ward, District I(1), relieving Shri O. P. Chopra, Income-tax Officer, "A" Ward of the same District, of the additional charge.

H. P. SHARMA, Commissioner.

ORDER

No. E/4046CTC/2E-24/58-59.—19th June 1961. —Shri S. G. Mehta, Income Tax Officer, Central Circle III, Calcutta, is granted, subject to admissibility report from the Accountant-General, West Bengal, Calcutta, earned leave under the Revised Leave Rules, 1933, for twelve days with effect from 26th June 1961 to 7th July 1961 with permission to prefix 24th and 25th June 1961 and suffix 8th and 9th July 1961 being holidays to the leave.

Shri R. S. Mani, Income Tax Officer, Central Circle IX, Calcutta, will hold charge of Income Tax Officer, Central Circle III, Calcutta, in addition to his own, during the leave of Shri S. G. Mehta.

Certified that on expiry of the leave Shri S. G. Mehta is likely to return to the same post from which he is proceeding on leave or to a post carrying similar rates of pay and allowances.

P. C. GOYAL, Commissioner.

IFICATIONS

ay 1961.—In pursuance of the
f the Bengal Finanoe (Sales Tax)
I of 1941), the following names
wly registered dealers together
goods covered by their regis-
e published for general infor-

ber, name, address, chief plaoe
s and number of branches.

nd date of the registration certi-

use in manufaoture or in the
of contracts.

resale.

Sud, Anand Kumar Sud, Ra-
Girdhari Lall Sood, carrying on
ade name Messrs. Qualitex &
Calcutta (a); AL/824A, 5-5-61
gricultural plough, steel shares,
d, puddler, manure trampler,
ridge maker, thresher, hand
ster and sprayers, horticultural
with notch, prunning knives,
pick axe, lawn mowers (d).

lass Agarwala, Ram Kumar
Agarwala and Om Prokash
on business under the trade
aders, 8 Mechuabazar Street,
A, 9-5-61 (b); (1) M. s. rounds,
s (d).

dul Gaffar, Rafiuzzaman and
ng on business under the trade
, 12 Colootola Lane, Calcutta
(b); Raw hide and skin (d).

Kumar Kolay, Sarada Prosad
Kolay, Rama Prosad Kolay and
, partners of N. C. Kolay &
ying on business under the trade
& Steel Co., 36 Strand Road,
A, 10-5-61 (b); (1) Raw mate-
crap and sand, (2) Plant, ma-
nd accessories, (3) Consumable
icating oil, fuelwood. Provided
hich exemption from payment
ed are intended for use in the
nufacture of the goods named
stings, (ii) Castings (c).

gh Gazmer (Proprietor), carrying
trade name Messrs. Dam-
arjeeling (a); DJ/984A, 5-5-61
, (3) Consumable stores, viz.,
acid. Provided that all goods
from payment of sales tax is
for use in the actual process
goods named below: (i) Gold and
Gold and silver bullion, gold
(d).

toilet goods, e. p. n. s. goods, plastic goods, writing requisites, tea, batteries, torch lights, thermoflask, leather goods (d).

7. Shrimati Asha Mukherjee and Shri Snehanshu Prokash Mukherjee, carrying on business under the trade name Messrs. BECA PLAC., Room No. 2 & 3 Stephen House, Dalhousie Square, Calcutta (a); EL/3449A, 17-5-61 (b); Alkathene strainer, alkathene bags, alkathene mozzle, m. s. channels, frames, shafts, g. a. bushes, bolts and nuts, washer, combined loss of head and plate of flow indicator, v. knotch plate, storage battery, c. i. pipes, g. i. pipes, pipe supporter, brass pipe, push button starter, m. s. angles, loom motors, m. s. channel and plates, flanged tee, m. s. flanges, sluice valves, m. s. frames, filtration equipment, sampling table with clarity bowls (d).

8. Shri Manilal Bhattacharjee, carrying on business under the trade name Kaud Engineering Works, 65 Santiram Rasta, Bally, Howrah (a); HW/2262A, 6-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories, (3) Consumable stores, viz., lubricating oil and chemicals. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below for sale: (1) Sockets, studs and bolts (c).

9. Messrs. Murarilal Ruia and Sakuntala Devi Singhania, carrying on business under the trade name Metal Moulders & Commercial Works, 1 Janki Devi Jalan Road, Lilooah, Howrah (a); HW/2263A, 6-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories, (3) Consumable stores, viz., coal and hard coke. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below for sale: (i) Flood light sheds, fan canopies, rolling mill keys (c); Flood light, sheds, fan, canopies, rolling mill keys (d).

10. Shri Motiram Gupta, carrying on business under the trade name Vijoy Engineering Works, 22 Salkia School Road, Howrah (a); HW/2264A, 6-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories, (3) Consumable stores, viz., coal. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below for sale: (i) Nails, bolts, nut, rivets (c).

11. Messrs. Kishenlal Jhunjhunwala, Nand Kishore Jhunjhunwala, Purshottamdas Jhunjhunwalla and Rajendra Kumar Agarwala, carrying on business under the trade name Hindusthan Mineral Corporation, 24 Goshala Road, Lilloah, Howrah (a); HW/2265A, 15-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below for sale: (i) Powder of minerals (c); China clay, soap stone, fire clay, dolomite and lime
(d).

Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below for sale: (*i*) Nuts (c); Nuts (d).

13. Messrs. Kailash Steel Rolling Mills (Private) Ltd., 20 Maharshi Debendra Road, Calcutta (a); JK/3119A, 9-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories, (3) Consumable stores, viz., coal, lubricating oil, grease. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: M. s. rods, m. s. flats, m. s. angles, gates, channels, m. s. squares and oclagon for sale (c).

14. Shri Begraj Gupta, carrying on business under the trade name Messrs. Himalayan Lozenge Factory, Nayabazar, Siliguri, Darjeeling (a); JP/2035A, 9-5-61 (b); (1) Raw materials. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods mamed below: (*i*) Lozenge (c).

15. Sethia Tea Estate (Private) Ltd., 1 Commercial Buildings, Calcutta (a); LR/3239A, 5-5-61 (b); Tea (d).

16. Shri Ram Ranjan Basak (Proprietor), carrying on business under the trade name Jewellery House, 51 Cornwallis Street, Calcutta-6 (a); MK/3288A, 9-5-61 (b); (1) Raw materials. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: (*i*) Gold ornaments for sale (c); Gold (d).

17. Messrs. Sevantilal Shah and Sukhlal Shah, carrying on business under the trade name Vora Industries, 77 Muktaram Babu Street, Calcutta-7 (a); MK/3289A, 11-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: (*i*) All types of brushes for sale (c).

18. Messrs. Arun Dey, Dhananjoy Lenka and Kishorilal Agarwala, carrying on business under the trade name Technikos Supplere, 58 Jatindra Mohan Avenue, Calcutta-5 (a); MK/3290A, 15-5-61 (b).

19. Messrs. Mahendra Kumar Gupta, Ram Babu Agarwalla and Shrimati Byari Devi Shaw, carrying on business under the trade name Rajco Battery Industries, 32 Gora Chand Bose Road, Calcutta (a); MK/3292A, 17-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: Storage battery, battery parts and components for sale (c); Battery parts (d).

20. Shri Tej Kumar Arora (Proprietor), carrying on business under the trade name Arora Soap Company, 6B Dwarkanath Tagore Lane, Calcutta (a);

are intended for use in th
nufacture of the goods nam
for sale (c).

21. Shri Sistidhar Sahu,
Mohan Sahu and Aditya K
business under the trade
laxmi Bhandar, Manikpara,
Midnapore (a); MN/1533A, 9
chillies, cassialeaf, coriande
(d).

22. Shri Gobardhan Dey
Saroj Kumar Dey, carrying
trade name Messrs. Mah
Bazar, Ghatal, Dist. Midnapo
(b); Readymade garments

23. Shri Arabindo Roy
business under the trade
Stores, 37A Rammohan Mu
MR/2606A, 6-5-61 (b); Tor
lantern, fountain pen, st
hazak lanterns, lighters, nib

24. Shri Bibhuti Bhusan
on business under the tra
Brothers, 113 Monohardas
2607A, 16-5-61 (b); Hinges,
penter tools (d).

25. Messrs. Prabal Chat
carrying on business under
Products & Co., 68B Russa
(a); PG/2530A, 5-5-61 (b);
Plant, machinery, spare
Consumable stores, viz., ch
Provided that all goods fo
payment of sales tax is c
use in the actual proces
goods named below: Indu

26. Messrs. Danaram De
nani, Ajit Kumar Guha,
Lodharam Megji Patel, Pa
ji Patel, Narayan Devsh
Mavji Kheta Patel, Somji
Kumar Guha, carrying on
name Bharat Timber Co.
outta-28 (a); PG/2531A, 1

27. Shri Madhusudhan
ness under the trade
kshit, Habra Bazar, P. O.
(a); PG/2532A, 10-5-61 (b);

28. Messrs. Pran Krishna
dra Manjee, carrying on b
name Shri Durga Enginee
pore Trunk Road, Alamba
2533A, 11-5-61 (b); (1) Ra
machinery, spare parts
that all goods for which
of sales tax is claimed ar
actual process of manufac
below: Rubber and glass
rubber factories (c).

from payment of sales tax is
ended for use in the actual pro-
ure of the goods named below:
s (c).

Kant Barman, carrying on busi-
trade name Sree Kant & Co., 313
utta (a); PG/2535A, 15-5-61 (b);
oks, sleepers, boxes, battens, crates
(d).

ika Jiban Kundu, carrying on busi-
rade name Shri Krishna Bhandar,
etaji Subhas Road, P. S. Sonarpur,
PG/2536A, 16-5-61 (b); Cement (d).

hu Charan Shee (Proprietor), carrying
r the trade name Messrs. Seal &
atra, Calcutta (a); RJ/2992A, 9-5-61
stationery goods and perfumeries

h Chandra Dutta (Proprietor),
ness under the trade name Messrs.
Street, Calcutta (a); RJ/2993A,
ware goods, g. i. wire, screw, nuts,
(d).

Gopal Sen, Shri Sudhir Kumar
mala Ranjan Sen (Partners), carrying
er the trade name Messrs. Sen
Rajakatra, Calcutta (a); RJ/2994A,
tionery goods, perfumeries, toilet

eshwarlal Maheswari (Proprietor),
ness under the trade name Messrs.
gineering Corporation, 33H Raja
reet, Calcutta (a); SH/3075A, 6-5-61
terials, (2) Plant, machinery, spare
sories. Provided that all goods for
n from payment of sales tax is
nded for use in the actual process
of the goods named below:
plastic parts and high-speed steel
(c); Special high-speed steel tools

Abhijit Ghosh and Manoda Charan
, carrying on business under the
e Gear Corporation, 39/2 Canal West
(a); SH/3077A, 10-5-61 (b); (1) Raw
Plant, machinery, spare parts and
vided that all goods for which ex-
ayment of sales tax is claimed are
e in the actual process of manufac-
ds named below: H. t. and l. t.
use unit, fuse elements, fuse board
se elements (d).

hu Charan Paul (Proprietor), carrying
r the trade name Sambhu Charan
h, Hooghly (a); SP/1422A, 11-5-61
aterials. Provided that all goods for
n from payment of sales tax is
ended for use in the actual process
of the goods named below: (*i*)
(c); Fire-wood (d).

payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: (*i*) Wooden furniture (c).

39. Shri Lalit Mohan Saha (Proprietor), carrying on business under the trade name Messrs. Lalit Mohan Saha, 6 Munshi Bagan Road, Calcutta (a); TL/2410A, 10-5-61 (b); Cane (d).

40. Karsandas Bhaichand Shanghvi and Gambhirdas Bhaichand Shanghvi (Partners), carrying on business under the trade name Messrs. New Oriental Photographic Stores, 139A S. N. Banerjee Road, Calcutta (a); TL/2411A, 11-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: (*i*) Photo (c); Photo goods (d).

S. K. GHOSE, Commissioner.

No. 147C.T.—25th May 1961.—In pursuance of the provisions of section 9 of the Bengal Finance (Sales Tax) Act, 1941 (Bengal Act VI of 1941), the following names and addresses of registered dealers together with a description of the goods covered by their registration certificates whose registrations under the Act were cancelled with effect from the date noted against each of them are published for general information:—

Notes.— (a) Serial number, name, address, chief place of business and number of branches.

(b) Number and date of the registration certificate.

(c) Goods for use in manufacture or in the execution of contracts.

(d) Goods for resale.

(e) Date of cancellation.

1. Messrs. N. Bhattacherjee & Co., Contractor, Apcar-garden, Asansol, Dist, Burdwan (a); AS/1590A, 10-2-53 (b); Building materials, structural steel, machineries, implements for carrying and contract job (d); 5-5-61 (e).

2. Messrs. Torab Ali, Md. Hussain Street, Asansol, Dist. Burdwan (a); AS/1653A, 24-7-54 (b); Biri tobacco, biri leaves (d); 5-5-61 (e).

3. Messrs. Hafiz Panaullah, Munshibazar, Asansol Dist. Burdwan (a); AS/450A, 6-1-44 (b); Vegetable and fruits (d); 5-5-61 (e).

4. Chimanlal Brothers, 17 Rupchand Roy Street, Calcutta (a); AT/1308A, 12-5-44 (b); Biri leaves, biri tobacco, thread, biri paper, hessain & jute twine for packing (d); 5-5-61 (e).

5. India Cloth Company, 158 Cross St., Calcutta (a) AT/1268A, 28-2-44 (b); Cotton goods, saree and dhoties (d); 12-5-61 (e).

ghee, stationeries, plastic goods, electric goods, dry-fruits, paper, bolts and nuts, ridgings, rods, wire nails, wire, pipe and fittings, rivets, dustbins, drums, joists, angles, flats, channels, excels, ball bearing, springs, buckets, snow, powder, cream, tooth paste, tooth brush, hair lotion, cocoanut oil, nail polish, shaving blades and razor, lip stick, shampoo, hair dyes, scent, rose water, groundnut oil (d); 18-5-61 (e).

7. Bhajanlal Gajanand, 184 Cross St., Calcutta (a); AT/2315A, 13-9-49 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories, (3) Consumable stores, viz., cloth (cotton). Provided that all goods for which exemption from payment sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: (*i*) Readymade garments, (*ii*) Ropes (c); Textiles, hosiery goods, readymade garments (d); 18-5-61 (e).

8. Abdul Salam Md. Ibrahim, 144 Lower Chitpur Road, Calcutta (a); AT/259A, 26-9-41 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories, (3) Consumable stores, viz., mineral tarpentine, vegetable tarpentine and other quality of tarpentines, lubricating oil and grease, tin plates, polish containers and tins, packing papers and boxes, dyes and carbon black, carnauba wax, paraffin wax, bees wax, synthetic waxes and other quality of waxes. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: (*i*) Shoe polishes, (*ii*) Polish containers, (*iii*) Packing boxes (c); Toilet preparations, patent medicines, provisions, wax, wax candles, cutlery, tobacco, cigarettes, matches, stationery, groceries, playing cards, machine oils, lubricating oils and grease (d); 18-5-61 (e).

9. Bengal Steel Corporation, 3 Suburban Hospital Road, Calcutta (a); BH/2623A, 16-6-54 (b); Metals (ferrous and non-ferrous) (d); 17-5-61 (e).

10. A. C. Bhattacharya (Proprietor), carrying on business under the trade name Messrs. A. C. Bhattacharya & Sons, Bailapara, Bishnupur, Bankura (a); BK/297A, 14-8-57 (b); Motor oil, grease (d); 13-5-61 (e).

11. Munilal Rathi and Sitaram Rathi, carrying on business under the trade name Basant Kumar Lachminarayan, P-12 New Howrah Bridge Approach Road, Calcutta (a); CR/3056A, 19-11-56 (b); Millmade dhuti and saree, aluminium wares, rubber sheets, glass-wares, enamel wares, lamps, cutleries, waterproof, iron and steel metal products, paper, chemicals and heavy chemicals, machinery and spare parts, jute products, toilets and stationery goods, dyes and jugments, paints, varnishes, oils, electrical goods, wool, cycles and accessories, plastic powder and goods, shellac and shoe materials (d); 6-5-61 (e).

12. Shri Mohanlal Lohia (Proprietor), carrying on business under the trade name Messrs. Rupchand Mohanlal, 201B Harrison Road, Calcutta (a); RJ/2578A, 30-3-55 (b); Piece goods (d); 18-5-61 (e).

13. Messrs. Nandy Bastralaya, 52/1/4 Deshpran Sasmal Road, Howrah (a); HW/604A, 9-12-44 (b); Millmade goods of all description, piece goods, hosiery, handloom woven cloth, woollen and silk goods (d); 6-5-61 (e).

Chitpore Road, Calcutta (a);
Perfumery, tobacco, tobacco tabl
oil of all kinds, dhubbati, rose wa
5-5-61 (e).

16. Messrs. Kali Bhusan Dutta
Lane, Calcutta (a); MK/220A, 29-
(d); 12-5-61 (e).

17. Messrs. Shyam Sundar Co
ram Babu St., Calcutta (a); MK
Salt and bags (d); 16-5-61 (e).

18. Messrs. Duttlal Lachhir
Gandhi Road, Calcutta (a): M
Piece goods, textile goods, jute pro

19. Messrs. Krishna Textiles,
Calcutta (a); MR/2321A, 19-12-55
goods, textiles, umbrella parts (d

20. Messrs. S. C. Das & Sons, 42
Lane, P. O. Baranagore, 24-Parg
67 Khengraputty, Baranagar, Calcut
7-11-49 (b); Raw brass, brass sheets
Certified by the purchasing dealer to
in any process in the manufacture
scale weights (c); Iron scales (d); 9-5-

21. Messrs. Ganga Bishnu
Dambar Road, Garulia, 24-Parg
30-8-56 (b); (1) Raw materials, (2)
spare parts and accessories, (3)
viz., nil. Provided that all goods f
from payment of sales tax is clai
for use in the actual process of
goods named below: Gold and si
15-5-61 (e).

22. Messrs. Radheshyam Ramni
PR/112A, 26-9-57 (b); Lac, seedlac,
gunny bags, caustic soda and har
goods for which exemption from
tax is claimed are intended for
of manufacture of shellac (c); La
and lac products (d); 12-5-61 (e).

23. Messrs. Chandra Kumar Su
65 Maharshi Debendra Road, Cal
5-5-42 (b); Timber (d); 9-5-61 (e).

24. Messrs. Mackenzie & Co., 3
Road, Calcutta (a); TL/284A, 18
bauxite, litharge, bone dust, bon
other raw materials, (2) plant, mac
accessories and consumable sto
or plumbing materials or fixtures
truction, fitting out or repair of
tified by the purchasing dealer to be
any process in the manufacture
and acids for sale (c); Acids (d);

25. Messrs. Grain Supplying
Street, Calcutta (a); TL/539A, 6-10
linseed and (1) any other raw
machinery, spare parts, accessories
stores, (3) building or plumbing
required for construction, fitting
any building. Certified by the

barley, hay, straw and

-Regarding goods for use in
xecution of contracts the follow-
en used to indicate the meanings

ds.

y, spare parts, accessories and
tores.

lumbing materials or fixtures
nstruction, fitting out or repair
g.

S. K. GHOSE, Commissioner.

May 1961.—In pursuance of
n 9 of the Bengal Finance (Sales
l Act VI of 1941), road with sub-
9 of the Central Sales Tax Act,
nes and addresses of newly
ether with a description of the
r registration certificates under
x Act, 1956, are published for

mber, name, address, chief place
iness and number of branches.

and date of the registration
ate.

resale.

r use in manufacture.

or use in the execution of
ts.

as Colliery, Managing Contrac-
la & Sons (Private) Ltd.,
ankura (a); 163A(BK) (Central),
materials, (2) Plant, machinery,
sories, (3) Consumable stores.
ls for which exemption from pay-
is claimed are intended for
cess of manufacture of the
oal (d).

Nath Chanda, carrying on
rade name Messrs. Jogendra Nath
y, P.O. & P.S. Beldanga, Dist.
8A(BR) (Central), 15-5-61 (b);

(Private) Ltd., P-7 Old China-
ta (a); 1397A (CR) (Central),
nd steel scrap, brass, zinc and
g. p. sheet and machi-

usan Batas and Ramchandra
rying on business under the
arma Stores, 20 M. P. Road,
(DJ) (Central), 6-5-61 (b); Sport
p. n. s. goods, plastic goods,
batteries, torch lights, thermo-
(c).

rani Shome, carrying on busi-
ame Messrs.

97 Stephen House, Dalhousie Sq., 679A(EL) (Central), 16-5-61 (b); Electric motor, water pumps, electric generators, switch board & their spare parts, paint, tea, tea chest fittings & shooks, electrodes, welding accessories (c).

7. Shrimati Asha Mukherjee and Shri Snehansu Prokash Mukherjee, carrying on business under the trade name Messrs. BECA PLAC, Room No. 2 & 3 Stephen House, Dalhousie Sqr., Calcutta (a); 680A (EL) (Central), 17-5-61 (b); Alkathene strainer, alkathene bags, alkathene mozzle, m. s. channel frames, shafts, g. m. bushes, bolts and nuts, washer, combined loss of head and rate of flow indicator, v. knotch plate, storage battery, c. i. pipes, g. i. pipes, pipe supporter, brass pipe, push button starter, m. s. angles, loom motors, m. s. flange, sluice valves, m. s. frames, filtration equipment, sampling table with clarity bowls, m. s. channel and plates, flanged tee (c).

8. Shri Ramawatar Jhunjhunwala (Proprietor), carrying on business under the trade name Ashok & Company, 2 Digambar Jain Temple Road, Calcutta (a); 919A(JK) (Central), 5-5-61 (b); Cement (c).

9. Shri Sitaram Agarwala (Proprietor), carrying on business under the trade name Satya Narayan Singh & Co., 20 Maharshi Debendra Road, Calcutta (a); 920A(JK) (Central), 12-5-61 (b); Iron and steel (c).

10. Messrs. National India Traders (Private) Ltd., India Exchange Place, Calcutta (a); 1236A(LR) (Central), 5-5-61 (b); Tea (c); (1) Raw materials, (2) Plant, machinery, spare parts and accessories, (3) Consumable stores. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in the actual process of manufacture of the goods named below: (*i*) Tea (d).

11. Messrs. Oriental Wire Industries (Private) Ltd., 12/B Madan Chatterjee Lane, Calcutta (a); 873A(MK) (Central), 6-5-61 (b).

12. Messrs. North Calcutta Leather Workers, Co-operative Society Ltd., 7 Kailash Bose Street, Calcutta, (1) (a); 75B (MK) (Central), 10-5-61 (b); Shoes (c).

13. Messrs. Sevantilal Shah and Sukhlal Shah, carrying on business under the trade name Vora Industries, 77 Muktaram Babu Street, Calcutta-7 (a); 874A(MK) (Central), 11-5-61 (b); Garflon monofilaments (c); Garflon monofilaments for manufacture of all types of brushes (d).

14. Messrs. Arun Dey, Dhananjoy Lenka and Kishorilal Agarwala, carrying on business under the trade name Technikos Supplere, 58 Jatindra Mohan Avenue, Calcutta (a); 875A(MK) (Central), 15-5-61 (b); Cement (c).

15. Messrs. Mahendra Kumar Gupta, Ram Babu Agarwala and Shrimati Pyari Devi Shaw, carrying on business under the trade name Rajco Battery Industries, 32 Gorachand Bose Road, Calcutta (a); 876A(MK) (Central), 17-5-61 (b); Separator (c);

877A(MK) (Central), 18-5-61 (b).

17. Shri Pannalal Khetwat (Proprietor), carrying on business under the trade name Khetwat Enterprises, 6 Jatindra Mohan Avenue, Calcutta-6 JP-(1) (a); 76B(MK) (Central), 18-5-61 (b).

18. Messrs. Nagarmal Agarwala and Ramesh Kr. Agarwala, carrying on business under the trade name Bhairab Plastic Beads Factory, 28 Cross Street, Calcutta (a); 898A(MR) (Central), 10-5-61 (b); (1) Raw materials, (2) Plant, machinery, spare parts and accessories. Provided that all goods are intended for use in the actual process of manufacture of the goods named below: (*i*) Plastic beads (d).

19. Shri Rabi Kant Barman, carrying on business under the trade name Sree Kant & Co., 313 Jodhpore Park, Calcutta (a); 548A(PG) (Central), 15-5-61 (b); Timber, wood wool and packing boxes (c).

20. Messrs. Danaram Devshi Patel, Dayabhai Ratnani, Ajit Kumar Guha, Madhabji Nathu Patel, Ladharam Mavji Patel, Panchan Nathu Patel, Nanji Patel, Narayan Devshi Sudhani, Ravji Patel, Mavji Kheta Patel, Sanji Arjun Patel and Kallol Kumar Guha, carrying on business under the trade name Bharat Timber Co., 552 Jessore Road, Calcutta-28 (a); 549A(PG) (Central), 16-5-61 (b); Timber (c).

21. Messrs. Madan Mohan Dey, Rati Ranjan Dey, Nimai Krishna Dey, Satya Gopal Paul and Santi Ranjan Sengupta, carrying on business under the trade name Protective Paint Products, 39 A. K. Mukherjee Road, Baranagar, Calcutta-36 (a); 550A(PG) (Central), 16-5-61 (b); Raw materials for manufacturing: (*i*) Stiff paints, (*ii*) Mixed paints, (*iii*) Emeral varnishes and blocks (d).

22. Ram Prasad Agarwalla, Mahabir Prasad Agarwalla, Prahlad Rai Agarwalla and Bimla Debi Agarwali, carrying on business under the trade name Messrs. Rajasthan Trading Co., Manbazar Road, Purulia, P. O. & Dist. Purulia (a); 270A(PR) (Central), 9-5-61 (b); Foodgrains, spices, poppy seed, chillies, cocoanut oil, oil seed, sugar, ghee, vegetable, soda and jagree (c).

23. Shri Rama Chandra Kurup, Shri Prem Narain Gaur and Shri Kailash Nath Sharma (Partners), carrying on business under the trade name Messrs. The International Chemical Agencies, 91 Lower Chitpur Road, Calcutta (a); 805A(RJ) (Central), 11-5-61 (b); Calcium, forenate, acid, denaturants and alkalis (c).

24. Messrs. Amritalal Rashanlal, Jaikarandas Sohanlal, Roshanlal Ganeshamal and Sohanlal Ganeshamal (Partners), carrying on business under the trade name Sohanlal & Co., 2 Old Mayor's Court, Calcutta (a); 829A(SH) (Central), 5-5-61 (b).

25. Messrs. Chitra Gopal Chowdhury and Jagat Chandra Dutta (Partners), carrying on business under the trade name J. C. Dutta & Co., 187 Maharsh

Plastic Industries, 18 Nan
cutta-3 (a); 832A(SH) (Central)

27. Shri Lakhiram Nishan
on business under the trade
Mill, 24 New G. T. Roa
(a); 210A(SP) (Central), 9-5-61
materials. Provided that all g
tion is claimed are intended
process of manufacture of the
(*i*) sized wood (d).

28. Karsandas Bhai Chand Sh
Bhaichand Shanghvi (Partne
ness under the trade name
Photographic Stores, 139A S.
Calcutta (a); 662A(TL) (Central
goods (c); (1) Raw materials, (2)
parts and accessories. Provid
which exemption from payme
claimed are intended for use
of manufacture of the
(*i*) Photo (d).

S. K.

No. 150C.T.—25thMay 1961.
provisions of section 9 of the Ben
Act, 1941 (Bengal Act VI
sub-section (2) of section 9 of the
1956, the following names and
dealers whose registrations under
Act were amended with effe
noted against each of them and
culars appearing in the different
indicated against such particu
general information:—

Notes.— (a) Serial number, nam
of business and nu
(b) Number and dat
certificate.
(c) Goods for resale.
(d) Goods for use in
(e) Goods for use i
contracts.
(f) Date of amendment

1. (S) Shri Manordas J. Sh
J. Shah, Shri Himatlal and S
carrying on business uuder th
Manordas J. Shah for Manord
ringhee Road, Calcutta (a);
26-6-59 (b); 29-4-61 (f).

2. (S) Shri Nitya Bandhu
Nath Tripathi and Munni Nath
business under the trade name M
for Messrs. N. B. Mazumder, 2
cutta (a); 8A (AL) (Central),
(f).

3. (S) Krishna Rao Naraya
Krishna Kunjan Amin, carryin
the trade name Messrs

n Silk Depot for Indian Silk
h Mukherjee Road, Calcutta (a);
4-2-59 (b); 9-5-61 (f).

ndra Mohan Sinha, carrying on
trade name Messrs. Bhowanipur
Bhowanipur Motors, 2 Ashutosh
cutta (a); 21A (AS) (Central),
f).

etel, Abjee Petel, Devshi Lim-
yan, Monilal Petel, Veljee Salot,
d Dayaram Petel, carrying on
trade name Messrs. Petel & Co.
Co., 40 Shyama Prosad Mukher-
(a); 43A (AL) (Central), 28-6-57

Nath Bose and Debendra Nath
usiness under the trade name
for Messrs. Bose Bros. Chetla
40A (AL) (Central), 28-6-57 (b);

umar Bose, carrying on business
me Messrs. Machine Parts Co.
Parts Co., 26A Ashutosh Mukher-
(a); 140A (AL) (Central), 13-9-57

lulal K. Shah, carrying on busi-
name National Agency for
45 Ezra Street, Calcutta (a);
29-5-57 (b); (A) Electrical goods

gdas Binani and Ganeshdas Kar-
usiness under the trade name
Co., (S) 285/C Bowbazar Street,
anna Tagore Street, Calcutta-6
(Central) for 740A (SH) (Cent-
l (f).

nan Daw, Shri Deb Prosad Daw
Daw (Partners), carrying on busi-
name Dipi Traders for Dipi
oodmunt Street, Calcutta (a);
22-12-59 (b); 5-5-61 (f).

harbai (Proprietor), carrying on
ade name Askaran Binjraj for
Bonfields Lane, Calcutta (a);
27-6-61 (b); 5-5-61 (f).

i Kant Doongershi (Proprietor),
under the trade name Sara-
gershi for Saraswati Chandra
ji Subhas Road, Calcutta (a);
15-7-57 (b); 5-5-61 (f).

ratlal Sanghvi, Rajani Kant
var Sanghvi, carrying on busi-
name Indestto (India) Agency,
d, Calcutta (a); 186A (CR)
5-5-61 (f).

shiar Chand Sharma and Ram-
ying on business under the
etal Produ

& Co. for H. Dass & Co., 39 Strand Road, Calcutta (a); 737A (CR) (Central), 20-7-57 (b); 5-5-61 (f).

17. (S) Akbarally Abdul Hussain, Dawoodbhoy Abdul Hussain, Hatimbhoy Abdul Hussain and Hussainbhoy Badruddin, carrying on business under the trade name H. M. Siraj & Co. for H. M. Siraj & Co., 34 Strand Road, Calcutta (a); 165A (CR) (Central), 24-6-57 (b); 5-5-61 (f).

18. (S) Shri Satyendra Nath Nandi (Proprietor), carrying on business under the trade name A. C. Nandy & Co. for A. C. Nandy & Co., 36 Strand Road, Calcutta (a); 1070A (CR) (Central), 26-7-57 (b); 5-5-61 (f).

19. (S) Messrs. Monilal Banerjee, Phani Bhusan Banerjee and Bibhuti Bhusan Sircar, carrying on business under the trade name Monilal & Co. for Monilal & Co., 34 Strand Road, Calcutta (a); 155A (CR) (Central), 24-6-57 (b); 5-5-61 (f).

20. (S) Shrimati Lily Banerjee (Proprietress), carrying on business under the trade name Continental Engineering Works for Continental Engineering Works, 40/1 Strand Road, Calcutta (a); 808A (CR) (Central), 30-7-57 (b); 5-5-61 (f).

21. (S) Shrimati Saraju Bala Nath (Proprietress), carrying on business under the trade name Natharun & Co. for Natharun & Co., 36 Strand Road, Calcutta (a); 478A (CR) (Central), 6-7-51 (b); 5-5-61 (f).

22. (S) Shri Balai Chandra Mukherjee (Proprietor), carrying on business under the trade name S. Chatterjee & Co. for S. Chatterjee & Co., 40/1 Strand Road, Calcutta (a); 968A (CR) (Central), 19-10-57 (b); 5-5-61 (f).

23. (S) Messrs. Bhutnath Mukherjee, Baladeb Chatterjee and Provat Kumar Mukherjee, carrying on business under the trade name Eastern Industrial Corporation for Eastern Industrial Corporation, 39 Strand Road, Calcutta (a); 1016A (CR) (Central), 30-12-57 (b); 5-5-61 (f).

24. (S) Shri Birendra Nath Naha (Proprietor), carrying on business under the trade name B. Naha & Co. for B. Naha & Co., 32E Jackson Lane, Calcutta (a); 164A (CR) (Central), 24-6-57 (b); 5-5-61 (f).

25. (S) Messrs. Bhutnath Mukherjee, Baladeb Chatterjee and Provat Kumar Mukherjee, carrying on business under the trade name Sramajibi Stores for Sramajibi Stores, 39 Strand Road, Calcutta (a); 5B (CR) (Central), 18-6-57 (b); 5-5-61 (f).

26. (S) Shri Jagjivandas Sanghavi (Proprietor), carrying on business under the trade name Messrs. Industrial Mill Stores for Messrs. Industrial Mill Stores, 40 Netaji Subhas Road, Calcutta (a); 64A (CR) (Central), 18-6-57 (b); 5-5-61 (f).

27. (S) Shri Najmuddin Hatimbhai Deesawalla, Shri Mohammed Hussain Mulla Fidahussain Surti and Shri Zoeb. M. Fidahussain (Partners), carrying on business under the trade name Metropolitan Hardware Co. for Metropolitan Hardware Co., 71/A

for Messrs. Paper Emporium, 135 Canning Street, Calcutta (a); 119A (CR) (Central), 21-6-57 (b); 5-5-61 (f).

29. (S) Shri Joti Kumar Roy (Proprietor), carrying on business under the trade name Messrs. Pioneer Agency for Messrs. Pioneer Agency, 167 Old Chinabazar Street, Calcutta (a); 92A (CR) (Central), 19-6-57 (b); 5-5-61 (f).

30. (S) Shri Patit Paban Mullick (Proprietor), carrying on business under the trade name Messrs. I. B. Mullick & Co. for I. B. Mullick & Co., 161/1 Old Chinabazar Street, Calcutta (a); 448A (CR) (Central), 5-7-57 (b); 5-5-61 (f).

31. (S) Shri Sailesh Chandra Dey and Satish Chandra Dey, carrying on business under the trade name Messrs. Dey Brothers for Messrs. Dey Brothers, 167 Old Chinabazar Street, Calcutta (a); 175A (CR) (Central), 25-6-57 (b); 5-5-61 (f):

32. (S) Shri Haradhan Pramanik (Proprietor), carrying on business under the trade name Messrs. Mirror & Picture Merchant for Messrs. Mirror & Picture Merchant, 95/1 Old Chinabazar Street, Calcutta (a); 1210A (CR) (Central), 16-1-47 (b); 5-5-61 (f).

33. (S) Messrs. Jaharlal Sen, Prankrisna Sen, Brojo Kishore Sen and Subal Chandra Sen, carrying on business under the trade name Wooma Charan Sen & Sons for Messrs. Wooma Charan Sen & Sons, 136 Old Chinabazar Street, Calcutta (a); 142A (CR) (Central), 1-7-57 (b); 5-5-61 (f).

34. (S) Messrs. Ramesh Chandra Dey, Profulla Chandra Dey, Gobinda Chandra Dey and Nemai Chandra Dey, carrying on business under the trade name Sarat Chandra Dey for Messrs. Sarat Chardra Dey, 167 Old Chinabazar Street, Calcutta (a); 538A (CR) (Central), 10-7-57 (b); 5-5-61 (f).

35. (S) Md. Ismail and Abdul Razzaque, carrying on business under the trade name Messrs. Md. Ismail for Messrs. Md. Ismail, 140 Old Chinabazar Street, Calcutta (a); 805A (CR) (Central), 29-7-57 (b); 5-5-61 (f).

36. (S) Shri Biswanath Modi (Proprietor), carrying on business under the trade name Jalan Modi & Co. for Jalan Modi & Co., 67B Netaji Subhas Road, Calcutta (a); 504A (CR) (Central), 8-7-57 (b); 5-5-61 (f).

37. (S) Shri Dhirajlal Mehta (Proprietor), carrying on business under the trade name The Bengal Hardware Mart for The Bengal Hardware Mart, 67/A Netaji Subhas Road, Calcutta (a); 354A (CR) (Central), 18-6-57 (b); 5-5-61 (f).

38. (S) Shri Keshablal Mehta (Proprietor), carrying on business under the trade name Tara Tube Co. for Tara Tube Co., 69A Netaji Subhas Road, Calcutta (a); 355A (CR) (Central), 28-6-57 (b); 5-5-61 (f).

39. (S) Messrs. R. B. Mundal and G. B. Mundal, carrying on business under the trade name Ghose Mundal & Co. for Ghose Mundal & Co., 51/A

on business under the trade
Mistry & Bros. for Md. Yead
71A Netaji Subhas Road, Calc
(Central), 3-7-57 (b); 5-5-61 (f).

41. (S) Shri Naba Kumar Mu
carrying on business under the
Mukherjee & Co. for N. N.
Netaji Subhas Road, Calcutta
tral), 27-6-57 (b); 5-5-61 (f).

42. (S) Shri D. C. Banerjee
on business under the trade na
Co. for Hardware Trading Co.,
Road, Calcutta (a); 459A (CR)
5-5-61 (f).

43. (S) Shri Tinkorilal Jain
on business under the trade na
Store Supply for Bengal Har
71/A Netaji Subhas Road, Calc
(Central), 23-8-57 (b); 5-5-61 (f).

44. (S) Shri Mrigendra Lal Se
ing on business under the trade
Co. for Sen Das & Co., 71/A
Calcutta (a); 773A (CR) (Centra
61 (f).

45. (S) Messrs. Kumaresh
Chatterjee and Susanta Chatterje
ness under the trade name B
for B. Chatterjee & Co., 71/A
Calcutta (a); 442A (CR) (Central),

46. (S) Messrs. Probhat Ku
Kumar Chatterjee, Amal Kumar
Chandra Chatterjee, carrying on
trade name Probhat Works for
Netaji Subhas Road, Calcutt
(Central), 25-6-57 (b); 5-5-61 (f).

47. (S) Shri Hiranmoy Nath
on business under the trade na
for H. Nath & Co., 67B Netaji
cutta (a); 567A (CR) (Central),
(f).

48 (S) Shri Kishorilal Modi
Modi, carrying on business un
Modi & Company for Modi &
Subhas Road, Calcutta (a);
8-7-57 (b); 5-5-61 (f).

49. (S) Shrimati Kamala
carrying on business under the
Engineering Stores for Model
71/A Netaji Subhas Road, Calcu
(Central), 11-11-57 (b); 5-5-61 (f)

50. (S) Shri Abhoy Pada B
carrying on business under
Harrison Agency for The Har
Netaji Subhas Road, Calcutta
tral), 5-6-57 (b); 5-5-61 (f).

51. (S) Messrs. Punam Cha
Chand Dugar and Bhanwarlal
business under the trade na

)., 135 Canning Street, Cal-
entral), 27-7-57 (b); 6-5-61

din Mohosinbhai, Taher
hai Hussainbhai Abdullabhai
and Mannan Feda Hussain,
der the trade name C. H. Lee,
, Calcutta (a); 1321A (CR)
ubber hose, bolts and nuts (c);

lal Kanji, Jamnadas Josvir,
and Kantabai Premchand,
nder the the trade name
Kantilal & Co., 38 Netaji
ta (a); 292A (CR) (Central),

ttacherjee (Proprietor), carry-
trade name B. Sidant & Co.
Netaji Subhas Road, Calcutta
27-6-57 (b); 6-5-61 (f).

anchand Gupta, Ramchand
Agarwal, Ramsarup Gupta
ying on business under the
Co. for Ranabir & Co.,
ad, Calcutta (a); 754A (CR)
5-61 (f).

Abdul Kader, Badruddin
hoy Salehbhoy, Joharbhoy
ssain Hassanalij, Salehbhoy
sufali and Ismailbhoy Taher-
ess under the trade name
for A. T. Ali Hussain & Co.,
tta (a); 192A (CR) (Central),

dra Nath Basu (Proprietor),
nder the trade name Khagen-
Khagendra Nath Basu & Sons,
tta (a); 536A (CR) (Central),

ati Prosad Shew (Proprietor)'
ler the trade name V. Jarton &
71/A Netaji Subhas Road,
(Central), 7-9-57 (b); 6-5-61 (f).

nsraj Agarwal, Ramprokash
ta, Dharampal Gupta, Setpal
elavati, carrying on business
Dewanchand Nikkamal for
71/A Netaji Subhas Road,
(Central), 8-7-57 (b); 6-5-61 (f).

Chandra Dutta (Proprietor),
der the trade name P. C. Dutta
C. Dutta & Co., 71/A Netaji
a); 225A (CR) (Central), 26-6-57

ankar Sanghvi (Proprietor),
nder the trade name Varities
rities Hardware Stores, 71/A
alcutta (a); 215A (CR) (Central),

ikanta Mehta and Fakruddin
busin

dra Dutta, Phani Bhusan Dutta and Ajoy Kumar Dutta, carrying on business under the trade name Prossono Coomar Dutta & Sons for Prossono Coomar Dutta & Sons, 71/A Netaji Subhas Road, Calcutta (a); 462A (CR) (Central), 5-7-57 (b); 6-5-61 (f).

65. (S) Messrs. Dawood Bhai Abdullabhai, Sirajbhai Akbarali and Abidbhai Akbarali, carrying on business under the trade name S. Saify & Co. for S. Saify & Co., 67B Netaji Subhas Road, Calcutta (a); 128A (CR) (Central), 25-6-57 (b); 6-5-61 (f).

66. (S) Shri Vrijlal Shaw (Proprietor), carrying on business under the trade name Terra Tools & Co. for Terra Tools & Co., 67B Netaji Subhas Road, Calcutta (a); 828A (CR) (Central), 3-8-57 (b); 6-5-61 (f).

67. (S) Messrs. Saroj Kumar Mukherjee and Saileshwar Banerjee, carrying on business under the trade name Delta Electric & Engineering Co. for Delta Electric & Engineering Co., 71/A Netaji Subhas Road, Calcutta (a); 941A (CR) (Central), 18-9-57 (b); 6-5-61 (f).

68. (S) Shri Saroj Kumar Mukherjee (Proprietor), carrying on business under the trade name Mc. Mira and Company for Mc. Mira & Co., 71/A Netaji Subhas Road, Calcutta (a); 721A (CR) (Central), 19-7-57 (b); 6-5-61 (f).

69. (S) Shri Radhesham Gour (Proprietor), carrying on business under the trade name R. S. Gour and Sons for R. S. Gour & Sons, 67B Netaji Subhas Road, Calcutta (a); 772A (CR) (Central), 26-7-57 (b); 6-5-61 (f).

70. (S) Messrs. Kedarnath Dhur, Kanailal Dhur, Badhynath Dhur and Sambhunath Dhur, carrying on business under the trade name B. N. Dhur & Co. for B. N. Dhur & Co., 71/A Netaji Subhas Road, Calcutta (a); 878A (CR) (Central), 18-8-57 (b); 6-5-61 (f).

71. (S) Shri Purna Chandra Dutta (Proprietor), carrying on business under the trade name P. C. Dutta & Co. for P. C. Dutta & Co., 71/A Netaji Subhas Road, Calcutta (a); 69A (CR) (Central), 18-6-57 (b); 6-5-61 (f).

72. (S) Messrs. Anil Kumar Dutta, Bibhutibhusan Dey and Nakul Chandra Dutta (Partners), carrying on business under the trade name Messrs. A. K. Dutta & Co. for Messrs. A. K. Dutta & Co., 115 Canning Street, Calcutta (a); 290A (CR) (Central), 27-6-57 (b); 6-5-61 (f).

73. (S) Messrs. Govardhan Das Binani and Matru Mall Jhawar, carrying on business under the trade name General Metal Trading Co. for General Metal Trading Co., 38 Strand Road, Calcutta (a); 166A (CR) (Central), 24-6-57 (b); 9-5-61 (f).

74. (S) Shri Kalika Prosad Pathak (Proprietor), carrying on business under the trade name Sanskrit Bros. for Sanskrit Bros., 40 Netaji Subhas Road, Calcutta (a); 103A (CR) (Central), 11-6-57 (b); 9-5-61 (f).

75. (S) Shri Ratan K. Chowdhury, Shri Jitan K. Chowdhury, Shri Gibinda Lall Chowdhury, Sm. Rama Chowdhury, Sm. Ila Chowdhury and Sm. Mukul Chowdhury (Partners), carrying on business under the trade name R. J. Brothers for R. J. Brothers, 137 Canning Street, Calcutta (a); 251A (CR) (Central), 26-6-57 (b); 9-5-61 (f).

11-7-57 (b); 9-5-61 (f).

77. (S) Shri Nanda Lal Ghose (Proprietor), carrying on business under the trade name National Stores Emporium for National Stores Emporium, 85 Netaji Subhas Road, Calcutta (a); 416A (CR) (Central), 11-7-57 (b); 9-5-61 (f).

78. (S) Messrs. Sarafally Rajabally and Asgarally Rajabally, carrying on business under the trade name S. F. Hatim & Co. for S. F. Hatim & Co., 28A Netaji Subhas Road, Calcutta (a); 239A (CR) (Central), 26-6-57 (b); 9-5-61 (f).

79. (S) Messrs. Fidahussain Mulla Abdullabhoy, Fakhruddin Mohamedally, Rajabali Mohamedally, Moizbhoy Sujauddin and Yusuf Hatimbhoy, carrying on business under the trade name Fakhruddin & Co. for Fakhruddin & Co., 38 Netaji Subhas Road, Calcutta (a); 269A (CR) (Central), 26-6-57 (b); 9-5-61 (f).

80. (S) Shri Tara Pada Chatterjee (Proprietor), carrying on business under the trade name T. P. Chatterjee & Co. for T. P. Chatterjee & Co., 91 Netaji Subhas Road, Calcutta (a); 419A (CR) (Central), 8-7-57 (b); 9-5-61 (f).

81. (S) Messrs. Bhaichand Kapurchand Doshi, Prabhdas Amritlal Mehta and Maganlal Motichand Mehta, carrying on business under the trade name Republic Trading Corporation for Republic Trading Corporation, 91 Netaji Subhas Road, Calcutta (a); 116A (CR) (Central), 21-6-57 (b); 9-5-61 (f).

82. (S) Messrs. Zainuddin Mohammedally Hussainbhai Mulla, Sultan Ali Md. Hussain Mulla, Kurban Hussain and Baker Hussain Mullasalebhoy, carrying on business under the trade name A. F. Hassan & Co. for A. F Hassan & Co., 26 Netaji Subhas Road, Calcutta (a); 657A (CR) (Central), 15-7-57 (b); 9-5-61 (f).

83. (S) Shri Nanalal K. Parekh (Proprietor), carrying on business under the trade name Atul Engineering Corporation for Atul Engineering Corporation, 67B Netaji Subhas Road, Calcutta (a); 335A (CR) (Central), 27-6-57 (b); 9-5-61 (f).

84. (S) Messrs. Hassanally Mohamedally Habib, Turabally Mulla Gulamally, Saifuddinbhoy Hassanally and Hussainibhoy Mulla Gulamally, carrying on business under the trade name T. H. Habib & Co. for T. H. Habib & Co., 67B Netaji Subhas Road, Calcutta (a); 223A (CR) (Central), 26-6-57 (b); 9-5-61 (f).

85. (S) Jb. Fazal Hussain (Proprietor), carrying on business under the trade name United Service & Stores for United Service & Stores, 67B Netaji Subhas Road, Calcutta (a); 881A (CR) (Central), 19-8-57 (b); 9-5-61 (f).

86. (S) Messrs. Hassanally Mohamedally, Turabally Mulla Gulamally, Saifuddinbhoy Hussainally, Hussainibhoy Mulla Gulamally, Abbasbhoy Abdul Hussain and Sujauddin Mulla Gulamally, carrying on business under the trade name The Republic Engineering Co. for The Republic Engineering Co., 67B Netaji Subhas Road, Calcutta (a); 224A (CR) (Central), 26-6-57 (b); 9-5-61 (f).

87. (S) Messrs. Pranlal G. Parekh, Mohsukhlal P. Mehta and Talakchand P. Mehta, carrying on busin

88. (S) Shri Shree Nar
carrying on business under th
Agencies for Stradicate Agen
Road, Calcutta (a); 939A (C
9-5-61 (f).

89. (S) Messrs. Ali Moham
bhoy Dawalbhoy and Saifud
on business under the trade n
Co. for A. Ali Mohammed & C
Calcutta, (a); 417A (CR
10-5-61 (f).

90. (S) Messrs. Sujauddin
bhai, Akberali Sarafali Rosu
Shabirbhai Alibhai and Saif
business under the trade na
Sujauddin & Co., 75 Netaji S
664A (CR) (Central), 17-7-57

91. (S) Messrs. Moezuddin
husain and Amtubai Adanji,
der the trade name Western
Hardware Co., 89 Netaj
cutta (a); 1240A (CR) (Centra
(f).

92. (S) Shri Nathmal Cho
ing on business under the trad
mal for Lachhiram Nathmal,
tta (a); 232A (CR) (Central),

93. (S) Shri Subinoy Mohan
ing on business under the trad
for Strand Shoe Co., 38 Str
782A (CR) (Central), 26-7-57

94. (S) Messrs. Ebrahimbh
uddin Tayebali Hakimuddin
Hussain Saifuddin, carrying
trade name M. Ebrahim & Co.
30 Strand Road, Calcutta (a
24-6-57 (b); 10-5-61 (f).

95. (S) Messrs. Prakash C
Nath Mitra, Dhirendra Nath
Mitra, carrying on business u
Indian Traders for The Ind
Road, Calcutta (a); 894A
10-5-61 (f).

96. (S) Shri Jithmal Bhans
sali, Shri Sugan Chand Bhans
Shri Bhikhan Chand Bhansa
Bhansali (Partners), carrying
trade name Pratabmull Gob
Gobindram, 118 & 119 Kheng
(a); 164A (CR) (Central), 20-6

97. (S) Shri Ratish Chandr
ing on business under the tra
Das & Co. for Satish Chandra
grapatty Street, Calcutta (a)
16-7-57 (b); 10-5-61 (f).

98. (S) Shri Sudhir Chan
Chandra Paul and Shri Deb
carrying on business under t
Paul for Haridas Paul, 1 Khe

un Kumar Manat and Sm. Ratan
rtners), carrying on business under
echand Tarakchand for Fatechand
Armenian Street, Calcutta (a);
), 4-7-57 (b); 10-5-61 (f).

Iulchand Chatrabhuj (Proprietor),
ss under the trade name Messrs.
y for Messrs. Anantrai & Company,
r Street, Calcutta (a); 766A (CR)
b); 10-5-61 (f).

Ashutosh Chatterjee (Proprietor),
ss under the trade name Messrs.
ary for Sarbamangala Library, 133
alcutta (a); 304A (CR) (Central),
(f).

Shabbir Ebrahim and Zainuddin
on business under the trade name
irror Mart for Bombay Mirror Mart,
et, Calcutta (a); 1062A (CR) (Cen-
10-5-61 (f).

Nathilal Gupta and Progdas Gupta,
s under the trade name Laxmi Glass
Laxmi Glass Works, 115 Canning
R) (Central), 20-7-57 (b); 10-5-61 (f).

ya Narayan Choudhury (Proprietor),
ess under the trade name Messrs.
ander for Messrs. Bengal Mirror
ing Street, Calcutta (a); 94A (CR)
); 10-5-61 (f).

ijjan Kumar Singhania (Proprietor),
ss under the trade name Messrs.
c for Messrs. Sunder Paper House,
zar Street, Calcutta (a); 346A (CR)
b); 10-5-61 (f).

s. Abbasbhoy Alibhoy Patel, Sale-
Rasulbhoy Abdul Hussain and
carrying on business under the trade
basbhoy & Co. for Salebhoy Abbas-
and Road, Calcutta (a); 695A (CR)
(b); 11-5-61 (f).

din Mulla Mohammedally, Zaiuuddin
dally and Nazmuddin Mulla
rrying on business under the trade
hammedally & Co. for G M.
Co., 40 Strand Road, Calcutta (a);
l), 27-7-57 (b); 11-5-61 (f).

urendranath Chatterjee (Proprietor),
s under the trade name S. N. Chatt-
or S. N. Chatterjee & Brothers, 38
utta (a); 822A (CR) (Central), 31-7-57

s. Monilall
alall

111. (S) Messrs. Manilall Atta, Keshablall Atta, Motilall Atta, Muktalall Atta, Sm. Aruna Atta and Apurba Kumar Atta, carrying on business under the trade name Nafar Chandra Atta for Nafar Chandra Atta, 126B Old Chinabazar Street, Calcutta (a); 516A(CR) (Central), 1-7-57 (b); 11-5-61 (f).

112. (S) Dayaram Shaw, Jaita Prosad Shaw and Krishna Prosad Shaw, carrying on business under the trade name Sarjuram & Sons for Sarjuram & Sons, 71A Netaji Subhas Road, Calcutta (a); 1204A(CR) (Central), 20-6-59 (b); 11-5-61 (f).

113. (S) Tulsiram Kajaria, Ramballav Kajaria and Panna Debi Kajaria, carrying on business under the trade name Ghoneshamdass Tulsiram for Goneshamdass Tulsiram, 22 Raja Woodmunt Street, Calcutta (a); 863A (CR) (Central), 12-8-47 (b); 11-5-61 (f).

114. (S) Shri Asgarbhoy Tayebali (Proprietor), carrying on business under the trade name Popular Rice Mill Stores for Popular Rice Mill Stores, 12B Clive Row, Calcutta (a); 980A(CR)(Central), 4-11-57 (b); 11-5-61 (f).

115. (S) Messrs. Manikchand Goenka, Mahabir Prasad Goenka and Murlidhar Goenka, carrying on business under the trade name Mahabir Prosad Murlidhar for Mahabir Prosad Murlidhar, 2 Raja Woodmunt Street, Calcutta (a); 831A(CR)(Central), 3-8-61 (b); 11-5-61 (f).

116. (S) Shri Indu Bhusan Dutta (Proprietor), carrying on business under the trade name I. B. Dutta & Co. for I. B. Dutta & Co., 56 Netaji Subhas Road, Calcutta (a); 1081A(CR)(Central), 19-7-58 (b); 11-5-61 (f).

117. (S) Shri Sanat Kumar Gupta (Proprietor), carrying on business under the trade name The Calcutta Wire Netting & Engineering Stores for The Calcutta Wire Netting & Engineering Stores, 18 Raja Woodmunt Street, Calcutta (a); 1019A(CR)(Central), 13-1-58 (b); 11-5-61 (f).

118. (S) Messrs. Ballya Gopal Hazra, Ramendra Nath Hazra and Tapen Nath Hazra, carrying on business under the trade name B. G. H. & Co. for B. G. H. & Co., 18 Raja Woodmunt Street, Calcutta (a); 1029A (CR)(Central), 24-2-58 (b); 11-5-61 (f).

119. (S) Shri Dasarathi Das (Proprietor), carrying on business under the trade name D. Das & Co. for D. Das & Co., 18 Raja Woodmunt Street, Calcutta (a); 1103A(CR)(Central), 23-9-58 (b); 11-5-61 (f).

120. (S) Messrs. Indu Bhusan Dutta, Saila Bhusan Dutta, Sudhanshu Bhusan Dutta, Durga Bhusan Dutta, Phani Bhusan Dutta, Moni Bhusan Dutta and Brojendra Bhusan Dutta, carrying on business under the trade name Bhutnath Mukherjee & Co. for Bhutnath Mukherjee & Co., 12 Raja Woodmunt Street, Calcutta

name Imnoor & Co. for Imnoor & Co., 12C Clive Row, Calcutta (a); 1220A(CR)(Central), 27-7-59 (b); 11-5-61 (f).

122. (S) Shri Gulzarilal Prakash (Proprietor), carrying on business under the trade name Messrs. Pioneer Typewriter Co. for Messrs. Pioneer Typewriter Co., 1 Netaji Subhas Road, Calcutta-1 (a); 329A(EL) (Central), 1-8-57 (b); 5-5-61 (f).

123. (S) Shri Provat Kumar Dutta (Proprietor), carrying on business under the trade name Bengal Industrial Corporation for Messrs. Bengal Industrial Corporation, 3 Mangoe Lane, Calcutta-1 (a); 249A(EL) (Central), 18-7-57 (b); 5-5-61 (f).

124. (S) Shri Monoharlal (Proprietor), carrying on business under the trade name Monoharlal & Co. for Messrs. Monoharlal & Co.. 3 Mangoe Lane, Calcutta-1 (a); 232A(EL) (Central), 16-7-57 (b); 5-5-61 (f).

125. (S) Messrs. Ganesh Chandra Sarkar & Nihar Ranjan Saha, carrying on business under the trade name United India Agenoy for Messrs. United India Agency, 3/1 Mangoe Lane, Calcutta-1 (a); 398A(EL) (Central), 20-8-57 (b); 5-5-61 (f).

126. (S) Shri Bimal Ranjan Bhattacherya, carrying on business under the trade name General Automobiles or Messrs. General Automobiles, 5 Mango Lane, Calutta-1 (a); 506A(EL) (Central), 22-3-58 (b); 5-5-61 (f).

127. (S) Shri Adu Ram (Proprietor), carrying on business under the trade name Imperial Cycle Mart for Messrs. Imperial Cycle Mart, 1/B Arrettos Lane, Calcutta (a); 291A(EL) (Central), 26-7-57 (b); 5-5-61 (f).

128. (S) Mr. Mordecai Ezekial Meyer, Mr. Nissim Albert Meyer and Mrs. D. Meyer, carrying on business under the trade name Diana Rolling Shutters & Engineering Works for Messrs. Diana Rolling Shutters & Engineering Works, 8 Stephen House, Calcutta-1 (a); 626A(EL) (Central), 1-7-57 (b); 5-5-6I (f).

129. (S) Messrs. Santosh Kumar Ghose, Salil Kumar Ghose, Gobinda Chandra Neogi, Dwijendra N. Neogi, Panchanan Neogi, Asit Kumar Neogi, Nisit Kumar Neogi, Manindra Nath Neogi, Ajit Kumar Neogi, Phanindra Nath Neogi, Mrinal Kumar Ghose, Provat Kumar Neogi & Ramendra Nath Ghose, carrying on business under the trade name Hooghly Motors for Messrs. Hooghly Motors, 6 Mangoe Lane, Calcutta-1 (a); 545A(EL) (Central), 17-1-59 (b); 6-5-61 (f).

130. (S) Shri Gurbax Singh (Proprietor), carrying on business under the trade name Goodwill Automobiles for Messrs. Goodwill Automobiles, 6 Mangoe Lane, Calcntta-1 (a); 143A(EL) (Central), 4-7-57 (b); 6-5-61 (f).

131. (S) Shri Om Parkas Oberai (Proprietor), carrying on business under the trade name Goodwill Motor Stores for Messrs. Goodwill Motor Stores, 6 Mangoe

Foundry for Messrs. Vijoy Iron
House, 5 Dalhousie Square East,
(EL) (Central), 5-7-57 (b); 6-5-

133. (S) Messrs. Bengal Jute
prietor), carrying on business
Asiatic Soap Company for Messrs
pany, 8 Dalhousie Square East,
(Central), 24-7-57 (b); 6-5-61 (f).

134. (S) Shri Shyamal Roy
carrying on business under the
for Messrs. Chowdhury's, 1 Neta
cutta-1 (a); 409A(EL) (Central),

135. (S) Shri Naba Knmar
carrying on business under the
& Electric Corporation for Messrs.
tric Corporation, 10 British Indian
400A(EL) (Central), 22-8-57 (b);

136. (S) Messrs. Ramgopal
Bubna, carrying on business
Calcutta Motor Parts & Co. for
Parts & Co., 12 Waterloo Street,
(Central), 8-7-57 (b); 9-5-61 (f).

137. (S) Shri Kashi Pati Gang
ing on business under the trade
& Motor Parts Co. for Messrs. K.
Parts Co., 6/1 British Indian
338A(EL) (Central), 2-8-57 (b);

138. Messrs. Balbir Singh &
on business under the trade name
for Messrs. Madan Automobiles,
Calcutta-1 (a); 145A(EL) (Central)
(f).

139. (S) Mr. Ibrahim Khan,
Miss Hashima Khan, carrying on
trade name Argus Trading Co. for
ding Co., 1 British Indian Street,
(EL) (Central), 29-8-57 (b); 9-5-61

140. (S) Shri Basanta Kumar
carrying on business under the
Cycle Importing Co. for Messrs.
ting Co,, 21 Bentinck Street,
(Central), 26-7-57 (b); 9-5-61 (f).

141. (S) Messrs. Mohamed
Naseer Ahmad & Shareef Ahmad,
under the trade name Auto Trader
9 Mangoe Lane, Calcutta-1 (a);
26-9-60 (b); 9-5-61 (f).

142. (S) Shri H. P. Nayer
business under the trade name

), 7-9-57 (b); 9-5-61 (f).

Krishna Daw (Proprietor), carry-
e trade name Nursing Chan-
s. Nursing Chander Daw & Co.,
hna Daw, 9 Dalhousie Square
586A(EL) (Central), 21-6-57

ndarlal Uberoi & Mohendarlal
siness under the trade name
Asian Motors, 12 Mangoe Lane,
(Central), 8-7-57 (b); 9-5-61 (f).

Ltd. for Messrs. Tata Fison
all Street, Calcutta (a); 521A
b); 12-5-61 (f).

ndas Devchand Khandia (Pro-
siness under the trade name
Messrs. Empire Motor Works,
Calcutta-1 (a); 525A(EL) (Cen-
(f).

R. Mehta & M. T. Shah, carry-
the trade name International
International Automobiles, 10
Calcutta-1 (a); 144A(EL)
5-5-61 (f).

bind Singh, Pratap Singh &
on business uuder the trade
for Messrs. Pal Motor Stores,
ta-1 (a); 175A(EL) (Central),

ndas Mulji Sampat, Mrs. Veni-
at and Miss Nalini Narandas
siness under the trade name
rs. S. Mitra & Co., 30 Bentinck
4A(EL) (Central), 17-8-57 (b);

l Chandra Ghosh (Proprietor),
nder the trade name G. C.
G. C. Ghosh & Co., 21 Bentinck
21A(EL) (Central), 28-8-57 (b);

t Singh & Trilochan Singh, carry-
he trade nama New India Tra-
w India Trading Co., 3 Mangoe
99A(EL) (Central), 27-7-57 (b);

naki Jiban Mallick, Janhabi
K. Mallick, Tarak Nath Mallick,
& Uma Sashee Mallick, carrying
rade name J. J. Mallik & Bros.
& Bros., 21 Bentink Street,
Central), 12-6-57 (b); 15-5-61 (f).

Sa

155. (S) Shri Singanallur Venkatesier Narasimhan (Proprietor), carrying on business under the trade name Hauer Trading Co. for Messrs. Hauer Trading Co., 7 Stephen House, Calcutta-1 (a); 150A(EL) (Central), 5-7-57 (b); 15-5-61 (f).

156. (S) Messrs. Manphul Singh Agarwalla, Prem Kumar Agarwalla & Sudarsan Kumar Agarwall, carrying on business under the trade name Agarwal Engineering Co. for Messrs. Agarwal Engineering Co., 27 Stephen House, Calcutta-1 (a); 368A(EL) (Central), 9-8-57 (b); 15-5-61 (f).

157. (S) Messrs. Krishna Chandra Banerjee, Jitendra Nath Sur & Salil Kumar Mukherjee, carrying on business under the trade name General Trading Co. for Messrs. General Trading Co., 9/1 Waterloo Street, Calcutta-1 (a); 87A(EL)(Central), 26-6-57 (b); 15-5-61 (f).

158. (S) Messrs. Netai Chandra Ghosh, Saroj Kumar Ghosh & Prafulla Kumar Mukherjee, carrying on business under the trade name Shyamal Motor Stores for Messrs. Shyamal Motor Stores, 10 British Indian Street, Calcutta-1 (a); 635A(EL) (Central), 21-6-57 (b); 15-5-61 (f).

159. (S) Elemech Engineering (Private) Ltd. for Messrs. Elemech Engineering Corporation, 6D British Indian Street, Calcutta (a); 520A(EL) (Central), 8-4-58 (b); 16-5-61 (f).

160. (S) Shri Madanlal Saboo, carrying on business under the trade name Saboo Industries for Messrs. Saboo Industries, 247 G. T. Road, Salkia, Howrah (a); 423A(HW) (Central), 6-2-59 (b); 6-5-61 (f).

161. (S) Shri Sanat Kumar Bose, Jagadish Chandra Bose and minors Shri Ajoy Kumar Bose & Sujit Kumar Bose, represented by their guardian mother Shrimati Anupama Bose, carrying on business under he trade name Messrs. J. Bose & Co. for Messrs. J. Bose & Co., Pirpur, P.O. Baniban, Howrah (a); 202A(HW)(Central), 23-7-57 (b); 6-5-61 (f).

162. (S) Messrs. Biswanath Manna, Jagannath Manna, Provash Chandra Manna & Sankar Nath Manna, carrying on business under the trade name Oriental Engineering Co. for Messrs. Oriental Engineering Co., 95/20 Dharamtala Road (K. D. Jalan Road), Ghusury, Howrah (a); 332A(HW) (Central), 8-11-57 (b); 9-5-61 (f).

163. (S) Shri Balai Chandra Karar, carrying on business under the trade name Messrs. B. C. Karar & Sons for Messrs. B. C. Karar & Sons, 133/1 Modhusudan Pal Chowdhury Lane, Howrah (a); 334A(HW) (Central), 12-11-57 (b); 10-5-61 (f).

164. (S) Shri Narendra Nath Choudhury, carrying on business under the trade name Messrs. National Stores Supply Agency for Messrs. National Stores Supply ... 282 Benaras Road, Belgachia, P. O.

P. O. Dasnagar, Howrah (a); 366A(HW) (Central), 15-3-58 (b); 12-5-61 (f).

166. (S) Shri Hrishikesh Paul, carrying on business under the trade name Messrs. N. C. Paul & Co. for Messrs. N. C. Paul & Co., Rajgunge, P. O. Sankrail, Howrah (a); 466A(HW) (Central), 15-7-59 (b); 12-5-61 (f).

167. (S) Shri Sasanka Sekhar Mullick, carrying on business under the trade name Messrs. Ultra Engineering Company for Messrs. Ultra Engineering Company, 172/8 Madhusudan Paul Chaudhury Lane, Howrah (a); 365A(HW) (Central), 18-3-58 (b); 12-5-61 (f).

168. (S) Shri Sunil Coomar Banerjee, carrying on business under the trade name Messrs. Industrial and Chemical Laboratory for Messrs. Industrial and Chemical Laboratory, 5/3 Harinath Nayaratna Lane, Howrah (a); 133A(HW) (Central), 3-7-57 (b); 12-5-61 (f).

169. (S) Shri Saradindu Guha, carrying on business under the trade name Messrs. Liluah Iron Works for Messrs. Liluah Iron Works, Guha Park, Lillooah, Howrah (a); 140A (HW) (Central), 4-7-57 (b); 13-5-61 (f).

170. (S) Shri Krishna Kamal Kundu, carrying on business under the trade name Messrs. Lakshmi Iron and Brass Works for Messrs. Lakshmi Iron and Brass Works, P. O. Santragachi, Rani Charan Sett Road, Ramrajatala, Howrah (a); 173A (HW) (Central), 11-7-57 (b); 13-5-61 (f).

171. (S) Shri Madan Mohan Ghose & Shri Sambhu Charan Ghose, carrying on business under the trade name Messrs. Ghose & Co. for Messrs. Ghose & Co., 11 Brindaban Mullick Lane, Kadamtala, Howrah (a); 313A (HW) (Central), 11-10-57 (b); 13-5-61 (f).

172. (S) Messrs. Gopal Chandra Roy & Dhananjoy Roy, carrying on business under the trade name Messrs. Royal Cycle and Gramophone Co. for Messrs. Royal Cycle and Gramophone Co., 1 Chandmari Road, Howrah (a); 312A (HW) (Central), 11-10-57 (b); 13-5-61 (f).

173. (S) Shri Bibhuti Bhusan Ghose & Shri Asit Kumer Paul, carrying on business under the trade name Messrs. Harish Chandra Ghose & Sons for Messrs. Harish Chandra Ghose & Sons, Rajgunge Bazar, P. O. Sankrail, Howrah (a); 390A (HW) (Central), 9-8-58 (b); 13-5-61 (f).

174. (S) Shri Jahar Lall Dass, carrying on business under the trade name Messrs. J. L. Dass & Sons for Messrs J. L. Dass & Sons., 71/1/1 Beneras Road, Howrah (a); 64A (HW) (Central), 1-7-57 (b); 13-5-61 (f).

175. Shri Kesto Pada Ghorui, carrying on business under the trade name Messrs. K. P.

176. (S) Shri Keshab
kesh Dey, Shri Murari Moh
Chandra Dey, carrying on
name Messrs. Keshab
for Messrs. Keshab Chandr
hat, Howrah (a); 403A
(b); 13-5-61 (f).

177. (S) Shri Ram Kris
business under the trade
Krishna Engineering Works
na Engineering Works, 2
Howrah (a); 144A (HW)
13-5-61 (f).

178. (S) Shri Satchida
Satyananda Aduck, carrying
trade name Messrs. Beng
for Messrs. Bengal Machine
singha Datta Road, Howrah
tral), 27-9-57 (b); 13-5-61

179. (S) Shri Dinobandhu
business under the trade
bandhu Ghosal for Messrs.
B. F. Siding, Shalimar,
(Central), 10-1-58 (b); 15-5-61

180. (S) Shri Jumuna
on business under the trade
krishna Chemical Works
Chemical Works, 9/9 Shalimar
Howrah (a); 439A (HW)
16-5-61 (f).

181. (S) Shri Jamuna Pra
business under the trade na
gat for Messrs. J. F.
Siding No. 4/5, Shibpur,
(Central), 4-7-57 (b); 16-5-61

182. (S) Shri Jumuna
on business under the trade
kar and Co. for Messrs.
mar PTR Siding No. 9/9,
141A (HW) (Central), 4-7-57

183. (S) Shri Sailendra
business under the trade
Sett for Messrs. S. N. Sett,
Road, Bally, Howrah (a);
26-9-58 (b); 16-5-61 (f).

184. (S) Messrs. Kewal
Kumar Makin, Virendra Kum
Makin, carrying on business
Messrs. Makin's Paint and
Messrs. Makin's Paint & Mi
kristapur Ghat Road, How
(Central), 23-7-57 (b); 16-5-61

185. (S) Shri Mahabir Par
on business under the trade
bir Iron Works for Messrs.

and Trunk Road, Salkia, How-
) (Central), 15-7-59 (b); 17-5-61

Badri Prasad Agarwal, Bhoormal
Agarwal, Dharka Prosad Agarwal
d Agarwal, carrying on business
name Kanhiram Ramgopal for
Ramgopal, 51 J. N. Mukher-
Howrah (a); 385A (HW) (Central),
(f).

Ambika Prasad Jhunjhunwala,
Jhunjhunwala & Lokenath
ying on business under the trade
na Gyanodaya Flour Mills for
hna Gyanodaya Flour Mills, 29/41
Road, Bandaghat, Howrah (a);
al), 29-10-57 (b); 18-5-61 (f).

alaram Banerjee, carrying on
trade name Balaram Baner-
Balaram Banerjee, 32 Goswami-
Bally, Howrah (a); 293A (HW)
b); 18-5-61 (f).

adri Alam, carrying on business
name Universal Engineering
Universal Engineering Works,
ddin Lane, Howrah (a); 443A
5-59 (b); 18-5-61 (f).

Amit Kumar Ghosh, Dhanan-
handra Ghosh, Krishna Chandra
dra Saha, Madan Mohan Saha &
hosh, carrying on business under
Messrs. Saha & Co. for Messrs.
T. Road North, Howrah (a);
al), 16-7-57 (b); 18-5-61 (f).

harain Bhagwandas (Proprietor),
& Oil Mill, 37 Netaji Subhas
375A (HW) (Central), 18-4-58 (b);
& mustard seed (c); (D) Mus-
5-61 (f).

kshmi Kanta Chatterjee, carrying
the trade name Messrs. Kashyap
Messrs. Kashyap Trading Co.,
Road, Howrah (a); 146A (HW)
); 16-5-61 (f).

Anirudha Bhatta, Sudhakar
th Singh, carrying on business
name Trigun & Co. for Messrs.
O. Lillooah, Howrah (a); 279A
-8-57 (b); 17-5-61 (f).

Kali Charan Das, Rabindra Nath
Narayan Mukherjee & Samarendra
ying on business under the trade
for Messrs. K. C. Dass, 32 Nata-
wrah (a);

Howrah (a); 43A(HW) (Central), 27-8-57 (b); 17-5-61 (f).

197. (S) Shri Kanailal Banerjee & Shri Baidya Nath Banerjee, carrying on business under the trade name Eastland Electric and Mill Stores Co. for Messrs. Eastland Electric and Mill Stores Co., 94/1 Beneras Road, Howrah (a); 137A (HW) (Central), 1-7-57 (b); 17-5-61 (f).

198. (S) Messrs. Mahabir Prosad Sharma, Madanlal Sharma & Ram Ratan Sharma, carrying on business under the trade name Messrs. Shree Krishna Metal Works for Messrs. Shree Krishna Metal Works, 224/24 Chotelal Misra Road (G. T. Road North), Howrah (a); 381A (HW) (Central), 7-6-58 (b); 18-5-61 (f).

199. (S) Messrs. Rupchand Muhta, Laxmi Chand Muhta, Shakunmal Jain & Mansukhlal Jain, carrying on business under the trade name United Metal Industries for United Metal Industries, 21 Dharamtolla Road, Belur, Howrah (a); 37B (HW) (Central), 31-3-59 (b); 18-5-61 (f).

200. (S) Messrs. Shyam Sundar Gambhir, Kamal Kishore Gambhir, Vijay Pal Gambhir, Jaswant Kaur & Chand Gambhir, carrying on business under the trade name Golden Steel Corporation for Messrs. Golden Steel Corporation, 15 G. T. Road, Lillooah, Howrah (a); 234A (HW) (Central), 31-7-57 (b); 18-5-61 (f).

201. (S) Shri Panchanan Mondal, carrying on business under the trade name Messrs. Mondal Engineering Works for Messrs. Mondal Engineering Works, 226/1 Bellilious Road, Howrah (a); 99A(HW) (Central), 1-7-57 (b); 18-5-61 (f).

202. (S) Messrs. Tahakardas Hareshandas, Rangildas Harkishandas & Iswarlal Harkishandas, carrying on business under the trade name Rangildas for Messrs. Rangildas Harkishandas, 145 Cotton Street, Calcutta (a); 497A(JK) (Central), 29-7-57 (b); 6-5-61 (f).

203. (S) Basanta Kumar Sen, Lalit Sundari Rakshit, Tarapada Kar and Tarak Bala Dasi, carrying on business under the trade name Rai Charan Chail & Co. for Messrs. Rai Charan Chail & Co., 152 Cotton Street, Calcutta (a); 643A (JK) (Central), 31-10-57 (b); 6-5-61 (f).

204. (S) Messrs. Jethalal Hargobindas, Pranjivan Hargobindas and Hasmukhlal Hargobindas, carrying on business under the trade name Harilal Hasmukhlal for Messrs. Harilal Hasmukhlal, 146 Cotton Street, Calcutta (a); 184A (JK) (Central), 27-6-57 (b); 6-5-61 (f).

205. (S) Messrs. Rameswardas Agarwalla, Hariram Agarwalla and Ramjilal Agarwalla, carrying on business under the trade name Hariram Agarwalla & Co. for Messrs. Hariram Agarwalla & Co., 132 Cotton Street, Calcutta (a); 463A (JK) (Central), 27-7-57 (b);

Dutta & Sons, 168B Cotton Street, Calcutta (a); 545A (JK) (Central), 31-7-57 (b); 6-5-61 (f).

207. (S) Messrs. Ladhuram Sethia, Kundarmal Sethia & Manik Chand Sethia, carrying on business under the trade name Sumermal Ray Chand for Messrs. Sumermal Roy Chand, 143 Cotton Street, Calcutta (a); 123A(JK) (Central), 26-6-57 (b); 6-5-61 (f).

208. (S) Messrs. Subodh Kumar Srimani, Kalyan moy Srimani, Santimoy Srimani, Jyatirmoy Srimani, Kantimoy Srimani and Nabagopal Srimani represented by his guardian Biswanath Mullick, carrying on business under the trade name Surendra Nath Srimani Sushil Kumar Srimani for Messrs. Surendra Nath Srimani Sushil Kumar Srimani, 33 Nalini Sett Road, Calcutta (a); 611A(JK) (Central), 26-8-57 (b); 6-5-61 (f).

209. (S) Messrs. Puranmall Dhanuka, Mahabirprosad Dhanuka, Sawalram Dhanuka, Savitri Devi Dhanuka, Gita Devi Dhanuka, Chandra Devi Dhanuka & Suchitra Devi Dhanuka, carrying on business under the trade name Bhagwandas Puranmull for Messrs. Bhagwandas Puranmull, 4 Narayan Prosad Babu Lane, Calcutta (a); 138A (JK)(Central), 1-7-57 (b); 6-5-61 (f).

210. (S) Shri Haranarayan Joshi (Proprietor) carrying on business under the trade name Srigopal Ayurved Bhawan for Messrs. Srigopal Ayurved Bhawan, 11 Narayan Prosad Babu Lane, Calcutta (a); 86A(JK) (Central), 22-6-57 (b); 6-5-61 (f).

211. (S) Messrs. Parshottam Patel & Ashok Patel, carrying on business under the trade name Naraharibhai Laloobhai for Messrs. Naraharibhai Laloobhai, 13 Narayan Prosad Babu Lane, Calcutta (a); 562A(JK) (Central), 31-7-37 (b); 6-5-61 (f).

212. (S) Messrs. Lala Nath Mal and Lala Girdharilal, carrying on business under the trade name Nathmull Girdharilal for Messrs. Nathmull Girdhârilal, 22 Burtolla Street. Calcutta (a); 135A (JK) (Central), 26-6-57 (b); 6-5-61 (f).

213. (S). Messrs. Sohanlal Daga, Srilal Daga, Gopallal Daga, Pannalal Daga, Siyanibhai and Badrilal Daga, carrying on business under the trade name Central Satgram Colliery for Messrs. Central Satgram Colliery, 22 Burtolla Street, Calcutta (a); 501A(JK) (Central), 30-7-57 (b); 6-5-61 (f).

214. (S) Messrs. Sohanlal Daga, Srilal Daga, Gopallal Daga, Pannalal Daga, Siyanibhai & Badrilal Daga, carrying on business under the trade name East Jamihery Colliery for Messrs. East Jamihery Colliery, 22 Burtolla Street, Calcutta (a); 506A(JK) (Central), 30 7-57 (b); 6-5-61 (f).

215. (S) Messrs. Biswanath Samanta, Tarapada Dawan and Parasnta Kumar Samanta, carrying on

216. (S) Messrs. Balchand C
rimal Choraria, carrying on busin
name Bhuramal Maniokchand, 4 D
cutta for Messrs. Bhuramal M
hatta Street, Calcutta (a); 699A(J
(b); 10-5-61 (f).

217. (S) Shri Sibaram Aditya
on business under the trade
for Messrs. D. C. Aditya, 231
Road, Calcutta (a); 636A(JK)
9-5-61 (f).

218. (S) Messrs. Chaitanya
Behari Bhur, carrying on busin
name C. C. Bhur for Messrs. C. C
shi Debendra Road, Calcutta (a);
26-8-57 (b); 9-5-61 (f).

219. (S) Shri Munilal (Karta)
Prosad, Mahabir Prosad, Kame
Kedarnath Gupta, Byas Pros
Prosad Gupta, Kashi Nath Prosad
member of the H. U. F, carrying
the trade name Mewa Bhagat
for Messrs. Mewa Bhagat Ragh
Maharshi Debendra Road, Calc
(Central), 30-7-57 (b); 9-5-61 (f).

220. (S) Messrs. Rathi Kanta
Nandy, Pataki Charan Sett &
carrying on business under the
& Co. for Messrs. Nandy an
Road, Calcutta (a); 403A(JK)
9-5-61 (f).

221. (S) Messrs. Amarendra
pada Nandi & Sukumar Paul, ca
under the trade name Nandy P
Nandy Paul & Co., 60 Nalini Sett
478A(JK) (Central), 29-7-57 (b); 9-

222. (S) Shri Badriprosad Bi
carrying on business under the
chand Badriprosad for Messrs. Bal
9 Jagamohan Mulliok Lane, Calc
(Central), 27-6-57 (b); 9-5-61 (f).

223. (S) Messrs. Gopiram D
Dhelia & Banwarlal Dhelia, carryin
the trade name Deoki Hosiery
Deoki Hosiery Factory, 74 Burto
(a); 442A(JK) (Central), 22-7-57 (b

224. (S) Messrs. Baboolal
Dalmia, Balkissen Dalmia, Hari
Parmeswarlal Shroff, carrying on
trade name Bhudarmal Ramc
Bhudarmull Ramchander, 122 Co

anath Kanoria, Dayaram Kano-
a and Shivnath Kanoria, carry-
ne trade name Dinanath Kano-
Dinanath Kanoria & Co., 133
(a); 46A(JK) (Central), 15-6-57

habir Rout, Ramchandra Prosad
Chandra Mahaseth and Rames-
ng on business under the trade
Mahabir Rout for Messrs. Asarfi
out, 143 Cotton Street, Calcutta
, 10-7-57 (b); 11-5-61 (f).

handayal Kanodia, Sriram Ka-
n Kanodia, carrying on business
anodia Supply Stores for Messrs.
es, 143 Cotton Street, Calcutta
), 16-7-57 (b); 11-5-61 (f).

yabhai Haribhai (Proprietor),
nder the trade name Jariwalla C.
Jariwalla C. D. Patel, 144 Cotton
71A(JK) (Central), 19-6-57 (b);

Beharilal Agarwala, Ramprosad
Agarwala, Biswanath Agarwala,
Ramjilal Agarwala and Ompro-
ng on business under the trade
rokash for Messrs. Beharilal Om-
Street, Calcutta (a); 822A(JK)
; 10-5-61 (f).

arendra Nath Sett, Satcowri Sett,
annalal Sett and Judhyapati Sett,
under the trade name Natabar
abar Se , 8/1 Maharshi Debendra
470A(JK) (Central), 27-7-57 (b);

Prosad Choudhury (Proprietor),
under the trade name Messrs.
d for Messrs. Pannalal Salik Pro-
et, Calcutta (a): 287A(JK) (Cen-
61 (f).

Jugal Kishore Nandy and Provat
rs), carrying on business under the
Nath Nandy & Brothers for
Nandy & Brothers, 7/1 Maharshi
lcutta (a); 649A(JK) (Central),
(f).

obardhan Sreemany, Saroj Kumar
Roy, carrying on business under
rdhan Sreemany for Messrs. Gobar-
aharshi Debendra Road, Calcutta
al); 27-6-57 (b); 10-5-61 (f).

Jasani, Chawanlal Amritlal Jasani, Dhanwantrai
Amritlal Jasani, Rameshchand Amritlal Jasani, Joyan-
tilal Matichand Gandhi, Ratilal Motichand Gandhi,
Jagadish Chandra Jayantilal Gandhi, Anil Kumar
Jayantilal Gandhi, Suresh Chandra Amritlal Jasani
and Bhupendra Kumar Jayantilal Gandhi, carrying on
business under the trade name Kantilal Mohanlal
& Co. for Messrs. Kantilal Mohanlal & Co., 401/7A
Upper Chitpore Road, Calcutta (a); 105A(JK) (Central),
24-6-57 (b); 10-5-61 (f).

236. (S) Shri Mithulal Kejriwal (Proprietor), carry-
ing on business under the trade name Calcutta Pipe
Mfg. Co. for Calcutta Pipe Mfg. Co., 374 Upper Chit-
pore Road, Caloutta (a); 574A(JK) (Central), 8-8-57
(b); 10-5-61 (f).

237. (S) Shri Ramniwas Bagaria (Proprietor), carry-
ing on business under the trade name Bagaria & Sons
for Messrs. Bagaria & Sons, P-21 Kalakar Street, Cal-
cutta (a); 755A(JK) (Central), 3-3-59 (b); 10-5-61 (f).

238. (S) Shri Naraindas (Proprietor), carrying on
business under the trade name Governor of Sarees for
Messrs. Governor of Sarees, P-12 Kalakar Street, Cal-
cutta (a); (S) 646A(JK) (Central) for 646A(BDII)
(Central), 8-11-57 (b); 11-5-61 (f).

239. (S) Messrs. Ramprosad, Beharilal and Banwari-
lal, carrying on business under the trade name Jhun-
tharam Ramprosad for Messrs. Jhuntaram Ramprosad,
9 Jagomohan Mullick Lane, Calcutta (a); 241A(JK)
(Central), 28-6-57 (b); 11-5-61 (f).

240. (S) Shri Arun Kumar Bhur, carrying on busi-
ness under the trade name Messrs. Modern Litho Print-
ing Works for Messrs. Modern Litho Printing Works,
13/1/1/B Chidum Mudi Lane, Calcutta (a); 614A(MK)
(Central), 8-11-58 (b); 5-5-61 (f).

241. (S) Shri Janki Prasad (Proprietor), carrying on
business under the trade name Messrs. National Bear-
ing and Tools Stores for Messrs. National Bearing and
Tools Stores, 224/5 Cornwallis Street, Calcutta (a);
626A(MK) (Central), 7-1-59 (b); 5-5-61 (f).

242. (S) Shri Mahadeo Prasad Agarwala (Proprietor),
carrying on business under the trade name Messrs.
Mahadeo Prasad Agarwala for Messrs. Mahadeo Prasad
Agarwala, 1A Madan Mohan Burman Street, Calcutta-7
(a); 528A (MK) (Central), 23-11-57 (b); 5-5-61 (f).

243. Shri Brij Lall Vij (Proprietor), carrying on
business under the trade name Rajkumar Puspabati, (S)
11 Rajendra Nath Sen Lane (Back portion), Calcutta-7
for 147A Muktaram Babu Street, Calcutta-7 (a); 816A
(MK) (Central), 24-10-60 (b); 9-5-61 (f).

244. (S) Bireswar Bysakh (Proprietor), carrying on
business under the trade name Messrs. Bysakh & Co.
for Messrs. Bysakh & Co., 55 W. C. Banerjee Street,
Calcutta (a); 441A(MK) (Central), 16-11-57 (b); 11-5-61
(f).

246. (S) Shri Daya Shankar Mishra (Proprietor), carrying on business under the trade name Messrs. Shewram Bajpai for Messrs. Shewram Bajpai, 84/1 Upper Chitpur Road, Calcutta (a); 627A(MK) (Central), 18-1-59 (b); 12-5-61 (f).

247. (S) Shri Durgapada Guha (Proprietor), carrying on business under the trade name Messrs. Bana Sambhar for Messrs. Bana Sambhar, 124A Acharya Profulla Chandra Road, Calcutta (a); 694A(MK) (Central), 15-7-59 (b); 15-5-61 (f)

248. (S) Shri Jagadish Chandra Mukherjee (Proprietor), carrying on business under the trade name Messrs. Geof W. Rose & Co. for Messrs. Geof W. Rose & Co., 95 Upper Circular Road, Caloutta (a); 564A(MK) (Central), 16-4-58 (b); (S) (1) Raw materials (2) Plant, machinery, spare parts and accessories except declared goods. Provided that all goods for which exemption from payment of sales tax is claimed are intended for use in actual process of manufacture of the goods named below: Electrical goods for sale (for) Nil (d); 16-5-61 (f).

249. (S) Shri Chandamall Sukhani, carrying on business under the trade name Messrs. Sukhani Plastic Industries for Messrs. Sukhani Plastic Industries, 259 Chittaranjan Avenue, Calcutta (a); 549A (MK) (Central), 10-3-58 (b); 16-5-61 (f).

250. (S) Shri Gyadinram, Shri Shiva Prosad Jaiswal and Shri Krishna Kumar Jaiswal, carrying on business under the trade name The Hindusthan Iron & Steel Co. for Messrs. Hindusthan Iron & Steel Co., 8 Rajendra Deb Road, Calcutta (a); 22A(MK) (Central), 31-5-57 (b); 17-5-61 (f).

251. (S) Shri Parmeshwar Prosad Fogla (Proprietor), carrying on business under the trade name Messrs. Fogla & Sons for Messrs. Fogla & Sons, 113 Monohardas Street, Calcutta (a); 324A(MR) (Central), 27-6-59 (b); (A) Cement colours (c); 12-5-61 (f).

252. Messrs. Cement Research Corporation (Private) Ltd., 15 Govinda Banerjee Lane, Calcutta-33 (a); 452A (PG) (Central), 2-7-60 (b); (A) Calcium chloride for manufacture of cement waterproofing component (d); 6-5-61 (f).

253. (S) Messrs. Gourhari Das, Ramgati Das, Krishna Chandra Das, Haradhan Das and Ashoke Kumar Das, carrying on business under the trade name H. P. Das & Co. for Messrs. H. P. Das & Co., Sree Gopal Mullick Road, P. O. Areadah, 24-Parganas (a); 264A(PG) (Central), 11-4-58 (b); 10-5-61 (f).

254. (S) Shri Krishnalal Shaw, carrying on business under the trade name S. Krishen & Sons for Messrs. S.

255. (S) Shri S. K. Sircar,
der the trade name S. K. Sircar
12 Ghosepara Road, Barrac
112A (PG) (Central), 16-7-57 (b)

256. (S) Shri Gajendra Na
business under the trade name
Co. for Messrs. M. C. Bhattachar
Tollygunj Circular Road, Ca
(Central), 2-7-57 (b); 10-5-61 (f).

257. (S) Shri Prafulla Ran
business under the trade name
ration for Messrs. Bagala Tra
Bagha Jatin Road, Calcutta-36
25-7-57 (b); 11-5-61 (f).

258. (S) Messrs. Rash Mo
Mohan Kundu, carrying on bu
name Cement House for Messrs
pur Road, Madhyamgram, 24-
(Central), 26-6-59 (b); 12-5-61 (f

259. (S) Shri Balai Chandra S
business under the trade name
khan for Messrs. Balai Chandr
Road, Barrackpur, 24-Parganas
27-8-58 (b); 15-5-61 (f).

260. (S) Messrs. Hare Kr.
Pulin Kr. Paul, Butto Kr. Paul,
Kr. Paul and Nirmal Kr. Paul
under the trade name Hiralal
Messrs. Hiralal Paul & Co., 185
Calcutta-35 (a); 29A(PG)(Centr
(f).

261. (S) Shri Jogesh Chandr
business under the trade nam
Messrs. Coomar & Co., 149 Rajk
Calcutta-35 (a); 247A(PG)(Centr
(f).

262. (S) Shri Anil Kumar Sa
business under the trade name A
for Messrs. Anil Kumar Sadhuk
pur, 24-Parganas (a); 158A(PG)
17-5-61 (f).

263. (S) Messrs. Radha Govin
Prosonna Nundy, carrying on bu
name Rajani Kanta Nundy & So
Kanta Nundy & Sons, Dhobi
para, 24-Parganas (a); 189A(PG
17-5-61 (f).

264. (S) Messrs. Radha Govind
Prosanna Nundy, carrying on bu
name Radha Govinda Nundy & B
Govinda Nundy & Bros., Dhobi
para, 24-Parganas (a); 105A(PG
17-5-61 (f);

al Agarwala, Ram Ballav Agarwala, Nand Kishore Agarwala, a, Ramabatar Agarwala and wala, carrying on business under Bajranglal Agarwala, Kashipur, Purulia. (a); 1 Bhagawati Flour (A) 2 Manohar Stores, Kashipur, Central), 16-8-58 (b); 5-5-61 (f).

V. Z. Job, V. Z. Joseph, V. Z. rian, carrying on business under ath Bros. for Messrs. Vaikath Road, Calcutta (a); 400A(RB) 10-5-61 (f).

an Lal Dey (Proprietor), carrying trade name Messrs. Dey Mandal Mandal Co., P-44/3 Lower a (a); 828A(RB)(Central), 11-7-57

un Tapan Ghosh (Proprietor) under the trade name Modern Co. for Messrs. Modern Scientific Braborune Road, Calcutta (a); 24-8-57 (b); 16-5-61 (f).

an Nath Kapur and Parmeshwari n business under the trade name for Messrs. Jugal Kishore & Co., alcutta-1 (a); 651A(RB)(Central),

athalal Manekchand Parekh and rekh, carrying on business under Parekh & Co. for N. M. Parekh Calcutta (a); 607A(RB)(Central),

Sukumar Bhattacheryya, Siva yya, Gopinath Kapur, Fonda rem V. Kapur, . Santi Devi Saraf carrying on business under the Co. for Messrs. B. S. & Co., 33 Calcutta (a); 135A(RB)(Central), (f).

nwarlal Baid and Shri Janwarlal rying on business under the trade n Textiles for Messrs. Tarun patty Street, Calcutta (a); 257A (b); 5-5-61 (f).

lipada Kar (Proprietor), carrying the trade name Messrs. Kalipada pada Kar, 57 Netaji Subhas Road, J)(Central), 1-7-57 (b); 5-5-61 (f).

12-12-57 (b); (A) Abir (c); 5-5-61 (f).

276. (S) Shri Hiralal Roy and Shri Satish Chandra Roy (Partners), carrying on business under the trade name Messrs. Jagneswar Roy Hiralal Roy for Messrs. Jagneswar Roy Hiralal Roy, 57 Clive Street, Calcutta (a); 297A(RJ)(Central), 1-7-57 (b); 6-5-61 (f).

277. (S) Shri Nepal Chandra Nandi Mazumder (Proprietor), carrying on business under the trade name Messrs. Lauha Bipani for Messrs. Lauha Bipani, 58 Clive Street, Calcutta (a); 655A(RJ)(Central), 6-12-57 (b); 6-5-61 (f).

278. (S) Shri Onkarmal Saboo (Proprietor), carrying on business under the trade name Messrs. Eastern Agency Co. for Messrs. Eastern Agency Co., 18 Mullick Street, Calcutta (a); 51A (RJ) (Central), 20-6-57 (b); 9-5-61 (f).

279. (S) Shri Bajranglal Bagaria, Shri Sohanlal Bagaria, Shri Madanlal Bagaria (Partners), carrying on business under the trade name Messrs. Lachminarayan Madanlal for Messrs. Lachminarayan Madanlal, 46 Strand Road, Calcutta (a); 201A(RJ)(Central), 28-6-57 (b); 10-5-61 (f).

280. (S) Hari Chand Kapur, Shri Lakhmi Narayan Kapur and Shri Jagdish Kapur (Partners), carrying on business under the trade name Messrs. Bharat Hosiery Factory for Messrs. Bharat Hosiery Factory, 7/1 Babulal Lane, Calcutta (a); 259A (RJ) (Central), 1-7-57 (b); 11-5-61 (f).

281. (S) Shri Ramniwas Sharda, Shri Bisheswardas Sharda, Shri Kunja Behari Sharda & Shri Shyam Sundar Soni (Partners), carrying on business under the trade name Messrs. Bengal Steel Traders for Messrs. Bengal Steel Traders, 203/1 Mahatma Gandhi Road, Calcutta (a); 581A(RJ)(Central), 20-8-57 (b); 12-5-61 (f).

282. (S) Shri Laduram Jalan, Shri Ramrich Pal Jalan, Shri Ram Prasad Agarwala & Shri Raghu Nath Misra (Partners), carrying on business under the trade name Messrs. Laduram Ramrich Pal & Co. for Messrs. Laduram Ramrich Pal & Co., 56 Monohardas Street, Calcutta (a); 237A(RJ)(Central), 28-6-57 (b); 16-5-61 (f).

283. (S) Shri Ram Pratap Agarwal & Shri Sitaram Agarwal (Partners), carrying on business under the trade name Messrs. Ram Pratap Sitaram for Messrs. Ram Pratap Sitaram, 46 Strand Road, Calcutta (a); 536A(RJ)(Central), 29-7-57 (b); 16-5-61 (f).

284. (S) Shri Chunilal Damani, Shri Kishorilal Damani, Shri Makhanlal Damani & Shri Harikishan Damani (Partners), carrying on business under the trade name Messrs. Chunilal Damani for Messrs. Chunilal Damani, 72 Monohardas Street, Calcutta (a); 91A(RJ)(Central); 25-6-57 (b); 16-5-61 (f).

286. (S) Shri Ram Chandra Hari Shankar & Shri Indra Vadan Jamiyatram (Partners), carrying on business under the trade name Messrs. Ram Chandra Jamiyatram for Messrs. Ram Chandra Jamiyatram, 187 Harrison Road, Calcutta (a); 144A(RJ)(Central), 26-6-57 (b); 17-5-61 (f).

287. (S) Shri Surajmal Dugar, Shri Champalal Dugar, Shri Hanumanmal Dugar, Shri Karnidan Dugar & Shri Santok Chand Dugar (Partners), carrying on business under the trade name Messrs. Chouthmal Balchand Dugar for Messrs. Chouthmal Balchand Dugar, 46 Strand Road, Calcutta (a); 208A(RJ)(Central), 28-6-57 (b); 17-5-61 (f).

288. (S) Shri Baldeodas Bahety (Proprietor), carrying on business under the trade name Messrs. Pride Hosiery for Messrs. Pride Hosiery, 201B Harrison Road, Calcutta (a); 121A(RJ)(Central), 26-6-57 (b); 17-5-61 (f).

289. (S) Manindra Chandra Paul, Hemendra Chandra Paul and Dhirendra Chandra Paul (Partners), carrying on business under the trade name M. C. Paul & Co. for Messrs. M. C. Paul & Co., 67/20 Strand Road, Calcutta (a); 4A(SH)(Central), 24-6-57 (b); 12-5-61 (f).

290. (S) Messrs. Gopiram Musaddi and Nathmall Musaddi (Partners), carrying on business under the trade name Bhairmal Gopiram for Messrs. Bhairmal Gopiram, 61 Strand Road, Calcutta (a); 105A(SH)(Central), 4-7-57 (b); 13-5-61 (f).

291. (S) Shri Ashutosh Chowdhury (Proprietor), carrying on business under the trade name Messrs. Mathura Mohan Ashutosh Chowdhury for Messrs. Mathura Mohan Ashutosh Chowdhury, 67/44 Strand Road, Calcutta (a); 427A(SH)(Central), 6-11-57 (b); 13-5-61 (f).

292. (S) Messrs. Manjee Karmshi Patel, Karshan Vishram Patel, Shivjee Hirjee Patel, Manjee Karmshi Patel and Ladu Manjee Patel (Partners), carrying on business under the trade name M. K. Patel & Co. for Messrs. M. K. Patel & Co. 67/22 Strand Road, Calcutta (a); 172A(SH)(Central), 17-7-57 (b); 13-5-61 (f).

293. (S) Messrs. Ramkumar Bhaneranika, Ramdutt Bhaneranika and Ramdew Bhaneranika (Partners), carrying on business under the trade name Ram Kumar Ramdew for Messrs. Ram Kumar Ramdew, 62/1 Strand Road, Calcutta (a); 57A(SH)(Central), 28-6-57 (b); 13-5-61 (f).

294. (S) Messrs. Deokinandan Sureka, Kamala Prosad Sureka and Prabha Devi Sureka, carrying on business under the trade name Baby Food

295. (S) Messrs. Gopikishan
dhar Bhatter, carrying on bu
name M. Gopikishan & Co. for
& Co., 30 Kali Krishna Tagore
234A(SH)(Central), 26-7-57 (b); 1

296. (S) Shri Narottam Sam
ing on business under the trade
& Narattam Samanta for Messr
Narattam Samanta, 28 R. G. K
626A(SH)(Central), 9-7-59 (b); 1

297. (S) Shri Tokershi Govi
carrying on business under th
Brothers for Messrs. Karia B
Road, Calcutta (a); 222A(SH)
16-5-61 (f).

298. (S) Messrs. S. P. Singh, F
and Sub Narayan Singh (Partne
ness under the trade name Sarj
for Messrs. Sarju Prosad Singh
Coal Depot, Calcutta-37 (a); 259
(b); 16-5-61 (f).

299. (S) Messrs. Ganesh Chan
Das and Mrityunjoy Das (Partn
ness under the trade name Shank
Shankar Factory, 19 Gour Lah
425A(SH)(Central), 6-11-57 (b); 1

300. (S) Shri Jaharlal Shaw
on business under the trade na
Ashram for Messrs. B. Shaw
Nimu Goswami Lane, Calcutta (a
8-8-57 (b); 16-5-61 (f).

301. (S) Messrs. Pannalal Gan
Jaharlal Ganguli and Hiralal
business under the trade name
Messrs. Tara Cycle Stores, 17/1
Calcutta (a); 7A(SH)(Central), 24-

302. (S) Messrs. Purna Chan
Nath Mullick, Kala Chand Mul
Mullick, carrying on business un
nan Mullick for Messrs. Panchana
Kar Road, Calcutta (a); 605A(SH
16-5-61 (f).

303. (S) Messrs. Murarilal Meh
Govindlal Mehta, Girdharilal Meh
carrying on business under the t
Beharilal for Messrs. Baldeoram
Road, Calcutta (a); 544A(SH)(C
16-5-61 (f).

304. (S) Shri Matilal Saha (Pr
business under the trade name P
for Messrs. Prova Chemical Wor
Calcutta (a); 498A(SH)(Central), 1

ar Filling Works for Messrs. Star 64 Pathuria Ghata Street, Caloutta dra Mullick Street, Calcutta (a); -7-57 (b); 16-5-61 (f).

Joytiswar Roy & Pabitra Mohan ying on business under the trade Trading Co. for Messrs. The Timber Strand Road, Calcutta (a); 195A 57 (b); 17-5-61 (f).

anmatha Nath Mukherjee (Propriesiness under the trade name Messrs. nanick Co. for Messrs. Mukherjee & 41 Strand Road, Calcutta (a); 268A 7 (b); 17-5-61 (f).

Bholaram Sarawagi, Jaydayal Saraar Sarawagi (Partners), carrying on trade name Binjraj Shewduttroy, Shewduttory, 67/19 Strand Road, H)(Central), 26-7-57 (b); 17-5-61 (f).

Panchanan Ghosh and Kanak Ch. carrying on business under the hosh & Sons for Messrs. K. M. Nimtolla Ghat Street, Calcutta (a); 29-4-58 (b); 17-5-61 (f).

Chironjilal Kejruwal, Sm. Maha m. Shivdevi Kejruwal (Partners), s under the trade name Pokermall rs. Pookermal Anandray, 62 Strand (a); 72A(SH)(Central), 2-7-57 (b);

i Poddar (Proprietress), carrynig on trade name Poddar Timber Works Timber Works, 67/10 Strand Road, H)(Central), 31-7-57 (b); 17-5-61 (f).

tai Mohan Saha (Proprietor), carryder the trade name Krishna Traders na Traders, 2 Kumartully Street, 97A(SH)(Central), 4-7-57 (b); (A) a globule, tapioca starch, tapioca , betel nuts (c); 18-5-61 (f).

Natwarlal Damani, Deokishandas krishnadas Damani (Partners), carryder the trade name West Bengal for Messrs. West Bengal Hosiery Brojadulal Street, Calcutta (a); 66A 57 (b); 5-5-61 (f).

jilal Seksaria and Noranglal Seksaria ng on business under the trade name glal for Messrs. Chiranjilal Naranglal,

Works for Messrs. Narayan Timber Works, Strand Road, Calcutta (a); 399A(SH)(Central), 27-9-59 (b); 6-5-61 (f).

316. (S) Shri Atma Ram Chadha, Shri Ram Lal Chadha & Shri Ram Chadha (Partners), carrying on business under the trade name Messrs. A. R. Chadha & Co. for Messrs. A. R. Chadha & Co., (S) 128 Maharshi Debendra Road, Calcutta-5 for 67 Bentinck Street, Calcutta-1 (a); (S) 830A(SH)(Central) for 916A(SL)(Central), 9-5-61 (f).

317. (S) Shri Phani Bhusan Sen (Proprietor), carrying on business under the trade name Alminox Laboratories India for Messrs. Alminox Laboratories India, 29 Lock Gate Road, Calcutra-2 (a); 553A(SH)(Central), 10-9-58 (b); 10-5-61 (f).

318. (S) Shri M. Joseph (Proprietor), carrying on business under the trade name Messrs. Calcutta Rubber Trading Co. for Messrs. Calcutta Rubber Trading Co., 16 Bedford Lane, Calcutta-16 (a); 199A(TL)(Central), 6-7-57 (b); 9-5-61 (f).

319. (S) Mr. G. C. Mackenzie (Proprietor), carrying on business under the trade name Messrs. ELMAC for Messrs. ELMAC, 13 Marsden Street, Calcutta (a); 8A(TL)(Central), 4-6-57 (b); 10-5-61 (f).

320. (S) Sarbasri D. G. Sahani, G. D. Sahani and R. B. Mansukhani (Partners), carrying on business under the trade name Messrs. International Engineering Co. for Messrs. International Engineering Co., 7/1 Lindsay Street, Calcutta (a); 115A(TL) (Central), 28-6-59 (b);10-5-61 (f).

321. (1) Shri Sushil Kumar Dass and (2) Shri Amiya Kumar Dass (Partners), carrying on business under the trade name Messrs. Bepin Behari Dass, G 30 and 31 S. S. Hogg Market, Calcutta (a); 306A(TL)(Central), 27-7-57 (b); (A) Plastic cloth and rubber sheets (c); 10-5-61 (f).

322. (S) Mr. Frameroz D. Mehta, Eroch F. Mehta and Minoo F. Mehta (Partners), carrying on business under the trade name Messrs. F. D. Mehta & Co. for Messrs. F. D. Mehta & Co., 12 Lindsay Street, Calcutta (a); 37A (TL)(Central), 17-6-57 (b); 11-5-61 (f).

323. (S) Messrs. Madras Rubber Factory Ltd. for Messrs. Madras Rubber Factory (Private) Ltd., 56 Dharamtolla Street, Calcutta (a); 506A(TL) (Central), 25-3-59 (b); 11-5-61 (f).

324. (S) Shri Sati Bai Ramchand (Proprietor), carrying on business under the trade name, Messrs. Ramsons

National Skin Corporation for Partners N. M. Ghuran and Md. Islam, carrying on business under the trade name Messrs. National Skin Corporation, 70 Debendra Chandra Dey Road, Calcutta (a); 564A(TL) (Central), 6-1-60 (b); 11-5-61 (f).

326. (S) Shri Noor Mohammed Mirday (Proprietor), carrying on business under the trade name Messrs. Noor Md. Mirday for Messrs. Noor Md. Mirday, G 21 S. S. Hogg Market, Calcutta (a); 345A(TL)(Central), 22-8-57 (b); 11-5-61 (f).

327. (S) Amal Sarkar (Proprietor), carrying on business under the trade name Messrs. Imperial Plastic Industries for Messrs. Imperial Plastic Industries, 11/2B Dr. Suresh Sarkar Road, Calcutta (a); 522A(TL)(Central), 5-6-59 (b); 11-5-61 (f).

Explanatory notes.—Regarding the amendments made, the following code letters have been used to indicate the manner in which the particulars of a registration have been amended:—

(A) means "Add"; (D) means "Delete"; (S) means "Substitute".

S. K. GHOSE, Commissioner.

No. 151C.T.—25th May 1961.—In pursuance of the provisions of section 9 of the Bengal Finance (Sales Tax) Act, 1941 (Bengal Act VI of 1941), read with sub-section (2) of section 9 of the Central Sales Tax Act, 1956, the following names and addresses of registered dealers together with a description of the goods covered by their registration certificates whose registrations under the Central Sales Tax Act, 1956, were cancelled with effect from the date noted against each of them are published for general information:—

Notes.—(a) Serial number, name, address, chief place of business and number of branches.

(b) Number and date of the registration certificate.

(c) Goods for resale.

(d) Goods for use in manufacture.

(e) Goods for use in the execution of contract.

(f) Date of cancellation.

1. Messrs. Chimanlal Brothers, 17 Rupchand Roy Street, Calcutta (a); 360A(AT) (Central), 1-7-57 (b); Biri, tobacco, biri leaves (c); 5-5-61 (f).

2. Messrs. Shyamsundar Company, 82/2 Muktaram Babu Street, Calcutta (a); 279A(MK) (Central), 29-7-57 (b); Salt, bag (c); 16-5-61 (f).

3. Messrs. Agarwal Metal Industries, 157 Netaji

Narayan Khettry and Shri Gopal (Partners), carrying on business un Messrs. Shyamlal Khettry for Khettry, 15 Pageyapatty Stre 454A(RJ) (Central), 17-7-57 (b); ings (c); 11-5-61 (f).

5. Shri Mohanlal Lohia, (Prop business under the trade name Mohanlal, 201B Harrison Road, (RJ) (Central), 25-7-57 (b); Art silk textiles (c); 18-5-61 (f).

S. K. GHOS

No. 148C.T.—25th May 1961.— provisions of sub-rule (8) of rule Sales Tax Rules, 1941, it is notified tion that the following declaratio reported to be lost, destroyed or stol of the dealers to whom these dec issued and are invalid for the pur Finance (Sales Tax) Act, 1941, an Rules:—

Serial number of the declaration form reported to be lost, destroyed or stolen.	Name, add certificate registered issued an destroyed
1	
1. A/9-321361 ..	Messrs. Pi & Scale Howrah. HW/122
2. A/11-383493 to A/11-383500.	Messrs. Pr Ramdul Calcutta. MK/247
3. A/7-956171, A/10-507102 and A/10-507111.	Messrs. Hi Bentinck RB/839A (Reported from the National Corporat
4. A/10-514800 ..	Messrs. J. 193/2 H cutta. RJ/275

9L-59/59.—12th June 1961. Government of West Bengal, order No. 502I.R./IR/9L- February 1959, the indus- een Messrs. Lebong and Estate, Darjeeling (Manag- Planters' Association, 9 tta-1) and their workmen Darjeeling Chiya Kaman den La Road, post office and regarding the issue mentioned ing a matter specified in the Industrial Disputes Act, was referred for adjudica- Industrial Tribunal;

said Fourth Industrial tted to the State Government id industrial dispute;

pursuance of the provisions Industrial Disputes Act 1947 Governor is pleased hereby award as shown in the

NNEXURE

n industrial dispute existing Lebong and Mineral Spring rjeeling (Managing Agents: Association, 9 Ezra Street, their workmen represented ling Chiya Kaman Sramik La Road, post office and eling (Government order /9L-73/57, dated the 11th (Case No. VII-39/59.)

FOURTH INDUSTRIAL
, WEST BENGAL

Present:

A, Judge, Fourth Industrial Tribunal.

ppearances:

ri D. P. Rai, Secretary of the

None.

pute between Messrs. Labong ng Tea Estate, Darjeeling Aryan Planters' Association, cutta-1), and their workmen Darjeeling Chiya Kaman den La Road, post office and over the following issue has Tribunal for adjudication, by

Issue

Whether the closure of the Lebong and Mineral Spring Tea Estate from November 1958, is justified? To what relief, if any, are the workers entitled?

AWARD

The only point to be adjudicated upon, in this dispute, is whether the closure of the tea garden from November 1958, is justified or not, and what relief the workers are entitled to.

After service of usual notices upon the parties, for appearance and for filing written statement, the workmen, represented by the Darjeeling Chiya Kanan Sramik Sangha (hereinafter referred to as the Union), filed in the written statement on 6th March 1959, duly signed and verified by the President of the Union. It is contended by the Union that the Management kept the tea garden closed from the month of November 1957, to the month of February 1958, and then nominally kept the garden open from the month of March 1958 to the month of October 1958, and again closed the garden in November 1958. The Union therefore claims compensation for the unjustifiable action of the employer in keeping the garden closed from November 1957 to February 1958 and again from November 1958 till date. The Union in para. 7 of the written statement raised an objection that the employer might not be allowed to be represented by any legal practitioner.

The employer did not turn up for appearance up to 13th January 1960, on which date the employer, that is, Messrs. Leong and Mineral Spring Tea Estate, appeared and authorised Shri P. K. Nandi, Labour Adviser, to represent them in the dispute, before the Tribunal. After some adjournments granted to the employer for filing written statements, the written statement was filed as later as on 13th March 1960, duly signed and verified by one Siba Nath Banerjee, described as the Director of Messrs. Labong and Mineral Spring Tea Co. Ltd., owner of Lebong and Mineral Spring Tea Estate of Darjeeling. It is contended by the Company in the written statement that they had been sustaining heavy losses for several years and was faced with great financial difficulties and for the extraordinary circumstances beyond their control the garden had to be closed in the month of November 1958. It is further contended that a Receiver had been appointed by the High Court by an order, dated the 2nd December 1958, who has taken charge and possession of all the affairs of the tea garden, and that the garden is now under the control and management of a Receiver.

It is, however, significant to note that the Company did not disclose who was the person said to have been appointed as Receiver and what were his rights and duties assigned upon him, by the orders of the High Court. Besides, no copy of the alleged orders of the High Court relating to the said appointment of any Receiver and the terms under which such Receiver was to

There remains, however, no doubt on the point that the closure was effected by the Company.

The case came up for final hearing on 25th May 1961, after several adjournments. The employer did not turn up at the time of hearing in spite of proper intimation sent and received. No cause was shown by the employer for their non-appearance. I, therefore, proceeded to hear the case ex parte. Shri D. P. Rai, Secretary of the Union, was examined on behalf of the Union. Besides, a document was marked as Ext. 1.

It is the admitted case of both the parties, as appearing from the pleadings that the tea garden had been closed in November 1958. The contention of the Union is that the closure was without any justification. From the written statement filed by the Company, it seems that they wanted to justify the action as to closure, on the ground that they were faced with great financial difficulties. The inevitable result of the closure was that the workers were thrown out of employment, under section 25FFF of the Industrial Disputes Act, the workmen, in continuous service for not less than one year, before the date of closure, are entitled to notice and compensation. The amount of compensation to be calculated on the basis of fifteen days' average pay for every completed year of service or any part thereof in excess of six months. At the same time, the amount of such compensation is limited and restricted to a maximum of a sum equivalent to the average pay of the workman for three months, provided it be found that the undertaking was closed down on account of unavoidable circumstances, beyond the control of the employer. It may, at the same time, be noted that a reason as to financial difficulties on the part of the employer, as made out in the written statement, cannot be deemed, as falling within the meaning of unavoidable circumstances. Shri D. P. Rai, the Secretary of the Union, in his deposition, before me, stated that he does not claim compensation at more than three months' average for any of the workmen. Virtually he gives up his claim for compensation at a higher amount for those workmen who had put in more than six years of service under the Company before the closure. It appears from his evidence that the employer did not carry on any work as to cultivation of tea plants and manufacture of tea, since the closure which took place in November 1958. The employer, however, made contracts for the sale of the entire tea leaves as naturally grew without care whatever it was worth with the Bannockburn and Tukdah Tea Estates in 1960 (vide Ext. 1). Be that as it may, I have no hesitation in holding that the closure of the tea garden in November 1958 without payment of compensation and service of notice was improper. Such closure was done at the initiative of the Company, made party in the order of reference. The closure is still continuing for all practical purposes. There is no such case made out by the Company in the written statement that the liability for payment of compensation had by

there is a closure of the gard
who had been in continuous
than one year, in this garden
must, therefore, be paid wag
notice pay and compensation
days' average pay for every
service, subject to a maxim

Judge, Fourth

The 2nd June 1961.

By order
S. C. MUKH

No. 3197IR/IR/10L-42/61
—Whereas under the Govern
Labour Department, order
42/61, dated the 27th Februa
dispute between Messrs.
Industries, 16 Chottolal Mis
and their workmen repre
Engineering and Metal Work
kori Mohanto Lane, Salkia
the issue mentioned in the
matter specified in the thi
Industrial Disputes Act, 1947
referred for adjudication to
Tribunal;

And whereas the said Fifth
has submitted to the State G
on the said industrial dispute

Now, therefore, in pursua
of section 17 of the Industria
(XIV of 1947), the Governor
publish the said award as sh
hereto.

ANNEXUR

In the matter of an industri
Messrs. Sree Krishna
16 Chottolal Missir Road
workmen represented b
Engineering and Metal
4 Panchkari Mohanto La
(Case No. VIII-80/61.)

BEFORE THE FIFTH
TRIBUNAL, WEST

Present:

Shri N. B. CHAUDHURI, Ju
Tribunal

Appearance

For the Union: Shri Ke
Secretary of the Union.
For the Company: Shri S. K
Labour Adviser, How
Association.

the Company) and their ted by Howrah District tal Workers' Union, 4 Panch- Salkia, Howrah (hereafter nion), for adjudication under lustrial Disputes Act.

eferred to this Tribunal for llows:

usal of employment of Shri ngh is justified? To what is he entitled?

AWARD

received on 4th March 1961, ere issued and served on both he parties entered appearance fter the Union took two nts by petitions for filing its ut no statement was filed. I suo moto gave further two ing a written statement, but conspicuous by its absence. I directed issue of a fresh Union for doing the needful, ails to turn up. This last o has been duly served. The no further steps under the I presume—nay find—that ny longer between the parties, ss a 'no dispute' award.

cted by me.

I,

N. B. CHAUDHURI,
ge, Fifth Industrial Tribunal.

order of the Governor,
MUKHERJEE, Asst. Secy.

1L-561/58.—13th June 1961. Government of West Bengal, order No. 4061IR/IR/11L- t August 1960, the industrial ssrs. New India Flour Mills Mahadeo), 41 Simla Road, workmen represented by the r Mills Mazdoor Congress, n Road, Calcutta-4, regarding in the said order being a the second schedule to the Act, 1947 (XIV of 1947), adjudication to the Sixth

said Sixth Industrial Tribunal e State Government its award al dispute;

n pursuance of the provisions Industrial

Messrs. New India Flour Mills (Prop.: Ramgopal Mahadeo), 41 Simla Road, Calcutta-6, and their workmen represented by the West Bengal Flour Mills Mazdoor Congress, 109Z Ultadanga Main Road, Calcutta-4. (Case No. VIII-411/60.)

BEFORE THE SIXTH INDUSTRIAL
TRIBUNAL, WEST BENGAL

Present:

Shri P. M. LAHIRI, Judge.

Appearances:

For the Company: Shri T. K. Jagadish, Labour Adviser, with Shri Lenin Roy, Advocate.

For the Union: Shri M. Saha, Advocate, with Shri N. J. Burman, General Secretary of the Union.

1. The Government of West Bengal, Labour Department, by order No. 4061IR/IR/11L-56/58, dated the 1st August 1960, referred under section 10 of the Industrial Disputes Act, 1947 (XIV of 1947), an industrial dispute between Messrs. New India Flour Mills (Prop.: Ramgopal Mahadeo), 41 Simla Road, Calcutta-6, and their workmen represented by the West Bengal Flour Mills Mazdoor Congress, 109Z Ultadanga Main Road, Calcutta-4, regarding a matter specified in the second schedule to the Act, to this Tribunal for adjudication.

2. This dispute was previously referred to the First Labour Court by Government order No. 2522IR/IR/11L-561/58, dated the 4th June 1959, for adjudication which has been replaced by the Sixth Industrial Tribunal constituted under notification No. 3115IR/IR/3A-6/59, dated the 21st June 1960, and has in consequence been abolished by notification No. 3508IR/IR/3A-9/59, dated the 11th July 1960.

The Schedule

Whether the transfer of Shri Kalyan Singh from New India Flour Mills to Messrs. Ramgopal Mahadeo is justified?

To what relief, if any, is he entitled?

AWARD

3. The New India Flour Mills is owned by Messrs. Ramgopal Mahadeo. The workers' Union named and styled as West Bengal Flour Mills Mazdoor Congress (hereinafter referred to as the Union) submitted a charter of demands on 27th January 1958 including a demand for entering the names of the drivers of the motor vehicles of the Mills in the Mill Wage Payment Registers and to stop payment to the drivers by vouchers. A letter was addressed by the Union to the Management on 30th January 1958 demanding the inclusion of the drivers' names in the Mill There was a dispute between the Union

4. The Union alleges that Shri Kalyan Singh was the driver employed by the Company, i.e., the New India Flour Mills, who used to drive the car No. WBD 8579 belonging to the Mills, but his name was not entered in the Mill Register and he was paid his wages by vouchers, and that when the Union by its letter, dated the 30th January 1958, demanded inclusion of his name in the Mill Wage Payment Register, the Management changed the ownership of the said car in February 1958 to deprive the driver in participating in bonus and other benefits given to the workers of the Mills, that Kalyan Singh was transferred from the New India Flour Mills to Messrs. Rampogal Mahadeo when the ownership of the car was transferred to Messrs. Ramgopal Mahadeo and that this transfer, according to the Union, was not justified.

5. It is the case of the Company that Kalyan Singh was never in the employment of the Company but he was taken in the employment of the Biswanath Rice Mills at premises No. 5, Buro Sibtola Road, Sahapur, Calcutta, as a driver of car No. WBE 771 then belonging to the said Rice Mills, that this car was purchased by Messrs. Ramgopal Mahadeo in January 1958 and Kalyan Singh was then taken in the employment of Messrs. Ramgopal Mahadeo for driving the car No. WBE 771 but his services were terminated on 30th January 1960, that the New India Flour Mills purchased the car No. WBD 8579 in 1955 which was sold away to Messrs. Ramgopal Mahadeo in February 1958, that Shri Kalyan Singh never drove the car No. WBD 8579 and that there was therefore no question of his transfer from the New India Flour Mills to the Proprietors of the Mills Messrs. Ramgopal Mahadeo.

Decision

6. It is admittedly a fact that the New India Flour Mills purchased the car No. WBD 8579 in 1955. It is the case of the Union that Kalyan Singh was employed by the New India Flour Mills to drive this car and that he was driving the car from 1955 onwards as an employee of the New India Flour Mills. The Company's, i.e., the New India Flour Mills' case is that Kalyan Singh was never a driver of the car No. WBD 8579 but that he was a driver of car No. WBE 771 belonging originally to the Biswanath Rice Mills. The New India Flour Mills purposely does not mention the name of the driver of WBD 8579. The New India Flour Mills states in the written statement that Kalyan Singh was not a driver of WBD 8579 belonging to the New India Flour Mills but that he was a driver employed by the Biswanath Rice Mills who drove the car No. WBE 771. The New India Flour Mills states in the written statement that when the car No. WBE 771 was purchased by Messrs. Ramgopal Mahadeo in or about January 1958 Kalyan Singh was employed as a driver of this car under Messrs. Ramgopal Mahadeo. Now, it is the admitted case of the parties as it is admitted in the New India Flour Mills' written statement that the firm of Messrs. Ramgopal Mahadeo owns Rice Mills, Dal Mills and

Kalyan Singh's evidence is
as a driver by the New India
his appointment he was
No. WBD 8579. It is alleg
the names of drivers of the
and of the lorry were not
Payment Register of the N
for the purpose of depri
participating in the bonus
payable to the workers of
Mills. It appears from
No. WBD 8579 was owned
Flour Mills. It appears f
Union wrote to the Manage
Flour Mills requesting him
the driver of the car No. W
Register. This letter is
1958. The New India Flour
the letter (Ext. 2) changed
car by transferring the o
Ramgopal Mahadeo, the Pr
India Flour Mills, in the e
1958. The ownership of t
within ten or twelve day
receipt of the letter (Ext.
Flour Mills then wrote a le
General Secretary of the
letter (Ext. 2) saying that
did not belong to the New
the Company. This letter
Agarwala, the Manager
(O.P.W. 1). O.P.W. 1 say
know all the employees of
who were working and also
worked and left." But he
No. WBD 8579 belonging to
Mills was certainly driven b
I do not remember." His
and he says, "I do not kno
of the driver of the car No.
to the Mills. The Mills als
had a driver who used to dri
not remember his name……
to how the payments of sala
were made or who made the
Kalyan Singh says, "My na
the Mill Register but I w
wages and these were entere
I recived payments after the
about the payment of salari
New India Flour Mills
Register and Payment Reg
produce the Khata the exist
admitted. O.P.W. 1 says—
Sharma, a durwan, went on
1956 to 30th March 1956. A
appointed in his place but
entered in the Attendance R
Register, but his name app
Khata……..Names of tem
entered in a different Regist
has not been produced." So
New India Flour Mills mai
Khata" where names of some
but whose names are not ente
or Wage Payment Register,
P.W. 1 Kalyan Singh and o
is admitted b O.P.W. 1

erred to Messrs. Ramgopal
says in his evidence—"I
driver; he was never an
ew India Flour Mills".
l he knows all the past and
the Flour Mills. He knows
ver, but does not remember
o. WBD 8579. The New
s in para. 15 of the written
e time in 1955 the Company
vate car (WBD 8579). The
ay to Messrs. Ramgopal
1958. Kalyan Singh never
time." It is further stated
ur Mills that Kalyan Singh
ar No. WBE 771 belonging
e Mills and that when this
ay to Messrs. Ramgopal
yan Singh was employed to
ployee of Messrs. Ramgopal
e definite case of the New
t Kalyan Singh was never
WBD 8579 and that he
employee of the New India
1 says in his evidence in
WBD 8579 belonged to the
account with me to show the
that car or to show the pay-
driver of that car". I have
at the New India Flour
lyan Singh used to drive car
2 Ram Dhari Singh says—
e employment of Biswanath
Sibtola Road, Sahapur. I
WBE 771 belonging to the
an Singh never drove the
When it is admitted by
Agarwala, the Manager, that
which names of temporary
when it is alleged that
employee of the Biswanath
r No. WBE 771 and when
hadeo are the Proprietors of
Mills and the Biswanath Rice
should have produced the
Mills to support the allegation
alyan Singh was nowhere in
our Mills but that his name
the Attendance or Wage
Mills. But these books have
held. O.P.W. 1 suppressed
d in evidence that he did not
of the driver of the only
the New India Flour Mills,
BD 8579. When the New
lleged that Kalyan Singh was
Biswanath Rice Mills and then
l Mahadeo it was incumbent
Flour Mills to prove these
ng or calling for the different
f the Flour Mills and Rice
srs. Ramgopal Mahadeo. I
documents filed in this case,
Ws. 1 and 2 and of O.P.W. 1
evidence on record I come to
Kalyan Singh was the driver
8579 from 1955 as an employee
ur Mills. It is admitted that
car No. WBD 8579 was transferred to Messrs. Ramgopal Mahadeo, the Proprietors of the Company. I hold that the transfer of Kalyan Singh from the Company, i.e., the New India Flour Mills, to Messrs. Ramgopal Mahadeo was not justified as he was an employee of the New Lndia Flour Mills, and whose services had not been terminated by the Company, i.e., the New India Flour Mills.

9. In view of my finding above I hold that Kalyan Singh is still an employee of the New India Flour Mills and his service is continuous from the date of his appointment, as his service with the New India Flour Mills was not terminated by the Company when he was transferred to work as a driver under the Proprietors Messrs. Ramgopal Mahadeo. He is therefore entitled to realise his arrear salaries and other monetary benefits, if any, from the Company from the date of his transfer in February 1958 and to continue to be an employee of the New India Flour Mills till his services are terminated.

10. An award is made accordingly.

Dictated and corrected by me.

P. M. LAHIRI,
Judge.

P. M. LAHIRI,
Judge, Sixth Industrial Tribunal.

The 1st June 1961.

By order of the Governor,
S. C. MUKHERJEE, Asst. Secy.

No. 3105-I.R./IR/11L-53/58.—12th June 1961.—Whereas under the Government of West Bengal, Labour Department, order No. 4460-I.R./IR/11L-53/58, dated the 19th August 1960, the industrial dispute between Messrs. Ispahani Ltd., 51 Ezra Street, Calcutta-1, and their workmen represented by Ispahani's Employees' Union, Commercial Buildings, second floor, Block No. 3, 23 Netaji Subhas Road, Calcutta-1, regarding the issue mentioned in the said order being a matter specified in the second schedule to the Industrial Disputes Act, 1947 (XIV of 1947), was referred for adjudication to the Seventh Industrial Tribunal;

And whereas the said Seventh Industrial Tribunal has submitted to the State Government its award on the said industrial dispute;

Now, therefore in pursuance of the provisions of section 17 of the Industrial Disputes Act, 1947 (XIV of 1947), the Governor is pleased hereby to publish the said award as shown in the annexure hereto.

cutta-1, and their workmen represented by Ispahani's Employers' Union, Commercial Buildings, second floor, Block No. 3, 23 Netaji Subhas Road, Calcutta-1 (case No. VIII-388/60).

BEFORE THE SEVENTH INDUSTRIAL TRIBUNAL, WEST BENGAL

Present:

Shri S. K. ROY, Judge, Seventh Industrial Tribunal.

For the company: Shri P. R. Mukherji.

For the union: None.

AWARD

The above dispute over the issue given in the schedule to the order of reference and reproduced below was first referred for adjudication to the First Labour Court by the Government of West Bengal, Labour Department, order No. 3576-I.R./IR/11L-53/58, dated the 25th August 1958, and the same dispute was subsequently referred for adjudication to this tribunal by the Government of West Bengal, Labour Department, order No. 4460-I.R./IR/11L-53/58, dated the 19th August 1960, in supersession of the said previous order of reference after the abolition of the said First Labour Court.

The only issue referred for adjudication stands thus:

> What are the respective dues of (i) Md. Salim, (ii) Abdul Hakim and (iii) Kshetrabasi Barik in terms of an award published in the "Calcutta Gazette" on 19th January 1956, under order No. 39-Dis./D/11L-70/55, dated the 7th January 1956?

On the final date of hearing, 30th May 1961, the company appeared, but there was no appearance on behalf of the union or the workers concerned and the workers concerned were also absent. The case was taken up for ex parte hearing at 12-30 p.m.

The issue, as referred to this tribunal, requires this tribunal to determine the respective dues of the three concerned workers under the award published in the "Calcutta Gazette" on 19th January 1956. According to the written statement filed by the union on behalf of the concerned workers this award was passed on 23rd December 1955, and the award directed reinstatement of the concerned workers and payment to them of four months' wages by way of compensation for the period of forced unemployment. In the present reference we are not concerned with the question of reinstatement, but we are only concerned with the question of the monetary dues of the concerned workers under the award. As there was no appearance on behalf of the union and the concerned workers and no evidence was adduced on their behalf, there is no evidence before this

and unchallenged evidence
testimony of O.P.W. 1 S
Bhattacharya, a competent o
and Exs. A, A(1) and A(2),
granted by the concerned w
their full dues under the awa
and final settlement of their
of the worker Abdul Hakim
at Rs. 64 per month, the
amounted to Rs. 248 at Rs.
dues of Kshetrabasi Barik a
at Rs. 100 per month. Upon
be held that the dues of the
under the award in question
shown in the receipts, Exs.
these dues were also fully
accepted by the concerned w
settlement of all their claims

Accordingly, I hold that
cerned workers, Abdul Ha
Kshetrabasi Barik under the
amounted to Rs. 256, Rs.
respectively, and they were
and they accepted them in fu
of all their claims. I award

Judge, Seventh

The 1st June 1961.

By orde

S. C. MUKE

No. 3136IR/IR/11L-620/5
Whereas under the Governm
Labour Department, order
620/58, dated the 24th
industrial dispute between
Tannery, 46 Tangra Road,
Tiljala, Calcutta-39, and thei
ed by the Calcutta Lea
Employees' Union, 8/5 Pra
Calcutta-15, regarding the is
said order being a matter s
schedule to the Industrial
(XIV of 1947), was referred f
Second Labour Court;

And whereas the said Seco
submitted to the State Gove
the said industrial dispute;

Now, therefore, in pursuan
of section 17 of the Industria
(XIV of 1947), the Governor
publish the said award as sh
hereto.

fice Tiljala, Calcutta-39, and represented by the Calcutta nneries Employees' Union, 8/5 r Lane, Calcutta-15 (case No. 58).

OND LABOUR COURT, T BENGAL

Present:

DEV, Presiding Officer, Labour Court.

ppearances:

Shri Biswanath Ash, advocate.

Madan Mohan Saha, advocate.

482IR/IR/11L-620/58, dated cember 1958, Government of r Department, referred an etween Messrs. Numchong orkmen represented by the Tanneries Employees' Union our Court for adjudication mentioned in the order of

Issue

anagement is justified in e service of Shri Jogeswar at relief he is entitled?

ompany, as stated in its as follows.

8 the company informed the t Bengal Tannery Mazdoor Jogeswar Ram was a member p in the business it would not Shri Jogeswar Ram, a shaver pany, with effect from 1st etter the company also assured ould give Shri Jogeswar Ram -employment, if its business pany also verbally informed of its above decision. Accordas terminated. At the time of ervice he was offered a lump full and final settlement of all Mahendra Singh, the secretary nery Mazdoor Union, received on behalf of and with the swar Ram. As the service of was terminated on account of ness of the company, the comthe termination is justified.

also raised a preliminary ct that this is not an industrial wing grounds:

of Calcutta Leather and Employees' Union which has e cause of Shri Jogeswar Ram ncelled;

was ever a member of West Bengal Tannery Mazdoor Union or that he ever authorised Shri Mahendra Singh to accept any compensation on his behalf or to enter into any settlement with the company about the termination of his service. He did not reecive any money alleged to have been paid to Shri Mahendra Singh. He was not a party to any alleged settlement, that took place between the company and Shri Mahendra Singh, secretary of the West Bengal Tannery Mazdoor Union. He was not informed beforehand that his service would be terminated. On 31st May 1958 he was told by the manager of the company that his service was no longer required. So the union contends that the termination of his service is unjustified.

Findings

It has been admitted by P.W. 1, Shri Kamal Bose, secretary of Calcutta Leather and Tanneries Employees' Union mentioned in the order of reference, that the registration of that union has been cancelled. He says that thereafter a new union named Leather and Tannery Mazdoor Sabha was formed with the members and office-bearers of the former union. He has produced a paper, Ex. 1(a), showing that the present employees of Messrs. Numchong Tannery are members of the new union and have espoused the cause of Shri Jogeswar Ram. It has not been disputed that the union mentioned in the order of reference was in existence at the time the dispute was raised by that union. The later union may be called, so to say, a successor-in-interest of the former union. It is also clear that the workmen in the employment of the company have espoused the cause of Shri Jogeswar Ram. So this is clearly an industrial dispute.

As to the merits of the case, the company has not adduced any evidence to the effect that there was a slump in its business at the time of the termination of Shri Jogeswar Ram. The company has produced a receipt (Ex. A1) purported to have been signed by Shri Mahendra Singh; but there is no evidence to show that Shri Mahendra Singh actually signed it. Even if this receipt be accepted as genuine, there is no evidence to show that Shri Jogeswar Ram authorised Shri Mahendra Singh to accept the money on his behalf or that the latter handed over the money to the former. There is no evidence to show that Shri Jogeswar Ram was a member of Mahendra Singh's union, as alleged by the company. The company has stated in its written statement that on or about 26th April 1958 the company informed Shri Jogeswar Ram of its decision to terminate his service with effect from 1st June 1958; but there is no evidence on that point. So the contention of the company in its written statement that Shri Jogeswar Ram has accepted through Shri Mahendra Singh the termination of his service falls to the ground. The company has examined only one witness in support of its case. He is O.P.W. 1, Shri Bhupendra Nath Ghosh. He does not say that the service of Shri Jogeswar Ram was

But no charge-sheet was drawn up against Shri Jogeswar Ram on the charge of inefficiency, not to speak of calling for his explanation or holding of any enquiry. There is no evidence before me that Shri Jogeswar Ram was inefficient. O.P.W. 1 says that the proprietor of the company warned Shri Jogeswar Ram for his bad work, but there is no corroborative evidence, verbaly or documentary, in support of the statement. So the evidence of O.P.W. 1 is a desparate attempt on the part of the company to bolster up a hopeless case. None of the two reasons given by the company in its written statement and in the evidence of O.P.W. 1 stands the slightest scrutiny. Here is a case where an employer has indulged in whimsical conduct in terminating the service of an employee. Hence I hold that the termination of service of Shri Jogeswar Ram is unjustified. So I order that the company shall reinstate him and pay him back wages with effect from 1st June 1958. It is admitted by both sides that his monthly salary at the time of the termination of his service was Rs. 110. So the company shall pay his back wages at that rate. The above order shall be carried out within a month of the publication of this award in the "Calcutta Gazette".

Dictated and corrected by me.

H. R. DEB, Presiding Officer.

H. R. DEB,
Presiding Officer, Second Labour Court.
The 31st May 1961.

By order of the Governor,
S. C. MUKHERJEE, Asst. Secy.

No. 3109IR/IR/11L-38(B)/60.—12th June 1961.—Whereas under the Government of West Bengal, Labour Department, order No. 4115IR/IR/11L-141/58, dated the 24th August 1959, as amended, the industrial disputes in the Cinema Industry in West Bengal between the employers as mentioned in the list attached to the said order, as amended, and their workmen represented by Bengal Motion Pictures Employees' Union, 126A Dharmtalla Street, Calcutta-13, regarding the issues mentioned in the said order, as amended, being matters specified in the Second and the Third Schedules to the Industrial Disputes Act, 1947 (XIV of 1947), were referred to the Second Industrial Tribunal for adjudication;

And whereas during the pendency of proceedings before the said Tribunal, complaints under section 33A of the Industrial Disputes Act, 1947 (XIV of 1947), were filed before it against Messrs. Rupayan Cinema, 23 Chetla Central Road, Calcutta, by Sarvashri Sailaja Chakraborty and Kalyan Kumar Bose, workmen of the said Company;

And whereas in pursuance of the Government of West Bengal, Labour Department, notification

IR/IR-1/58, dated the
adjudication;

And whereas the said Seco
adjudicated upon the said com
its award to the State Gover

Now, therefore, in pursua
of section 17 of the Industria
(XIV of 1947), the Governor
publish the said award as sh
hereto.

ANNEXUR

In the matter of complaints
the Industrial Disputes
Sailaja Chakraborty (Case
and Shri Kalyan Kumar
33A/1960), workmen o
Cinema, 23 Chetla Cent
represented by Bengal
Employees' Union, 126A
Calcutta-13, against the a

BEFORE THE SECOND L
WEST BENG

Present:

Shri HEM RANJAN DEB,
Second Labour

By order No. 4115IR/IR/11
24th August 1959, Governme
in the Labour Department, re
dispute between the owners of
ing Messrs. Rupayan Cinema
to the Second Industrial Tribu
During the pendency of tha
Sailaja Chakraborty and Kal
workmen of Messrs. Rupayan
plaints under section 33A of
putes Act against the above
Tribunal on 2nd July 1960.
authorised by Government noti
dated the 13th May 1958, tr
arising out of the above two
Court that very day for dispo

Findings

The cases were fixed on 7th
dates of hearing. On 20th
complainants filed petitions sta
withdrawing their respective ca
there are no longer any compl

Pre
Se

The 29th May 1961.

By order of th
S. C. MUKH

srs. Hind Ice and Cold Storage
West Road, Calcutta-4, and
ented by Hind Ice and Cold
ion, 1 Gouri Bari Lane,
the issue mentioned in the
atter specified in the third
rial Disputes Act, 1947 (XIV
for adjudication to the Third

id Third Industrial Tribunal
State Government its award
dispute;

pursuance of the provisions
Industrial Disputes Act, 1947
Governor is pleased hereby to
rd as shown in the annexure

NNEXURE

**industrial dispute between
and Cold Storage (P). Ltd.,
Road, Calcutta-4, and their
nted by Hind Ice and Cold
Union, 1 Gouri Bari Lane,
e No. VIII-632 of 1960.)**

THIRD INDUSTRIAL
WEST BENGAL

Present:
AL, Judge, Third Industrial
Tribunal.

Kartick Chandra Dey, work-

K. K. Maitra.

AWARD

1-I.R./IR/11L-511/60, dated
960, the Government of West
r Department, referred under
dustrial Disputes Act, 1947,
between Messrs. Hind Ice
Ltd., 23 Canal West Road,
r workmen represented by
orage Mazdur Union, 1 Gouri
a-4, regarding the matter
dule to the Third Industrial
under section 7A of the
Act, 1947, by notification
/57, dated the 11th March
n.

Issue

renchment of Shri Kartick
is justified? To what relief,
entitled?

Union on 10th January 1961. On that date both parties entered appearance and the Union filed written statement of claim as ordered. The next date was fixed on 25th January 1961 for filing written statement by the Company. But the Company actually filed written statement on 10th April 1961 after taking four adjournments. On the same date 38 workmen of the Company filed 38 separate applications denying any connection whatsoever with Hind Ice and Cold Storage Mazdur Union and at the same time alleging that the said Union is falsely fighting the case against the Company in their names although they do not espouse the cause of the workmen concerned and all these workmen have nothing to do with the alleged dispute. The Union was given opportunity to meet the objections raised by the 38 workmen of the Company but the Union did not take any step. Thereupon the case was fixed on 17th May 1961 for fixing a date for hearing. On that date the concerned workman Shri Kartick Chandra Dey made personal appearance before the Tribunal and filed a verified petition on the identification of Shri K. K. Maitra, the Labour Adviser representing the Company. Due intimation of this fact was given to the Union and the Company on 22nd May 1961. But the Union or the Company did not take any step. Therefore, the matter is being disposed of according to law. The petition filed by the workman on 17th May 1961 is taken into consideration. He has stated in the petition that there exists no longer any dispute between him and the Company inasmuch as he admits the validity of his retrenchment by the Company and he at the same time questions the Union's right to fight the case on his behalf against the Company. He has ultimately prayed for a 'no dispute' award.

I have considered the petition and the circumstances leading to the conducts of the parties as will appear from the order-sheet of the case and I am satisfied about the bona fide of this application filed by the concerned workman himself. He has prayed for a 'no dispute' award. There is no reason why the said prayer shall not be granted. There is nothing unfair and illegal in it and as such I accept the petition and grant his prayer. Accordingly, let there be a 'no dispute' award as prayed for by the concerned workman. The petition filed by him on 17th May 1961 will form a part of this award as annexure A.

This is my award.

Dictated and corrected by me.

J. N. MANDAL,
Judge.

JITENDRA NATH MANDAL,
Judge, Third Industrial Tribunal.

The 5th June 1961.

(Shri J. N. MANDAL, Judge).

In the matter of industrial dispute

Between

Messrs. Hind Ice and Cold Storage (P) Ltd.

And

Their workmen represented by the Hind Ice and Cold Storage Mazdur Union (vide Government order No. 6331-I.R., dated the 2nd December 1960).

The humble application of Shri Kartik Chandra Dey

Most respectfully sheweth:

1. That I was workman of the factory and I was retrenched by the Company, by a notice, dated the 8th August 1960. That I do not dispute the validity of the said act of retrenchment of the Company and I accept the retrenchment to be in order.

2. That I am not a member of the Hind Ice and Cold Storage Mazdur Union of 1 Gorabari Lane, Calcutta, and the said Union has no right to fight any case against the Hind Ice and Cold Storage (P) Ltd. in my name.

3. That I have no dispute and/or difference with the Company on any point whatsoever.

Under the circumstances, I most humbly pray that your honour would be graciously pleased to record that I have no dispute with the Company and a 'no dispute' award should be passed by your honour.

And your petitioner as in duty bound shall ever pray.

Kartick Dey.

(Signature of the applicant)

Verification

I, Kartik Chandra Dey, the applicant abovenamed, do hereby declare that the statements of facts, as stated in paragraphs above, are true to my knowledge and the rest are my submissions before the Tribunal and I have signed this verification on this day 4th of May 1961.

Kartick Dey.

(Signature of the applicant)

Identified by me.

K. K. Maitra for the Company.

J. N. MANDAL,

Judge, Third Industrial Tribunal.

The 5th June 1961.

By order of the Governor,

S. C. MUKHERJEE, Asst. Secy.

369/60, dated the 19th July
dispute between Messrs.
Works Ltd., 312 B. B. Chat
31, and their workmen repres
Rubber Works Mazdur Unio
Road, Kasba, Calcutta-31,
mentioned in the said order
in the third schedule to the
Act, 1947 (XIV of 1947), w
cation to the Seventh Indus

And whereas the said Seven
has submitted to the State
on the said industrial disput

Now, therefore, in pursua
of section 17 of the Industri
(XIV of 1947), the Governo
publish the said award as sh
hereto.

ANNEXU

In the matter of an industr
Messrs. Hindusthan Rub
B. B. Chatterjee Road,
workmen represented by
Works Mazdur Union,
Road, Kasba, Calcutta-31
186/60).

BEFORE THE SEVENT
TRIBUNAL, WEST

Present:

Shri S. K. ROY, Judge,
Tribunal

For the company: Shri P.
Shri T. P. Chatterjee, ad

For the union: Shri D. L.
Shri M. M. Saha, advocat

AWARD

The above dispute over the
order of reference and rep
referred for adjudication to
Government of West Bengal,
order No. 3612IR/IR/11L-36
July 1960.

The Issues stand thus:

Issues

(1) Revision of wages and
(2) Dearness allowance.
(3) Leave and holidays.
(4) Whether the closure of
ment and the ret
employees mentioned
To what relief, if any.
(1) Natabar Biswas
(2) Hiralal Ghosh
(3) Nabadwip Das

Majumder
mder

anguli
Sur
andari
Ghose
Majumdar
uli
hosh
Das.

usual notices, the parties filed
setting out their respective
s and the relevant case of each
sue will appear from the dis-
issue.

he No. 4, which is the most
he most contested issue in the

union has come forward with
bout the background of the
union of the employees of this
d long ago in 1947 and, at the
n, a reference was made to an
for adjudication of some
as—

minimum pay and dearness

n of gradation in wage scales,
holidays,

n of Provident Fund and
l.

its award on 30th April 1952.
with increments, dearness
e and holidays to be granted
This award was implemented
r a hard struggle by the union,
implementation of the award
, the company ceased to grant
loyees according to the award,
leaded that it had terminated
orkers were thus put to great
but could not induce the com-
n any relief. Then another
early in 1959, and it was duly
June 1959. This union placed
ds before the company on 5th
e company did not like this
ies and took no notice of the
ds. The union, therefore,
our Directorate of the Govern-
n in the matter, and concilia-
re started by the Government.
y of the conciliation proceed-
without assigning any reason
tice whatsoever till 25th June
Saturday, suddenly refused
ntatives of all the workmen of

men of the company excepting the 17 workers covered by issue No. 4, who were working in the footwear department, were allowed to resume work on 1st July 1960 and the company by individual notices served on 27th June 1960 declared the said 17 workmen retrenched on the plea that the footwear department was abolished.

After narrating the above facts by way of genesis and background of the present dispute between the parties, the union has further pleaded specifically under the present issue No. 4 that the closure of the footwear department and retrenchment of the 17 employees named in this issue were effected in colourable exercise of the management function and was neither bona fide nor warranted by the facts and circumstances of the case and was taken recourse to for the purpose of victimisation of the said workmen, and one particular reason for effecting the so-called closure of the department was that most of the leaders of the union were employed in this department. It is further contended by the union that these 17 workers were competent to be employed in other departments, but the company did not make any attempt to employ them in other departments and their retrenchment was also illegal and mala fide inasmuch as there were employees junior to them who were retained in other departments. The union's case further is that the footwear department is not an independent and completely separate department, but is one of the many departments of the company, and even if the closure was justified, the company should have employed them in other departments by following the principle of 'last come first go' in relation to the other junior workers of those departments. It is also the union's case that the retrenchment was absolutely illegal and invalid, because the conditions laid down in section 25F of the Industrial Disputes Act were not strictly complied with.

The company has, on the other hand, denied all the allegations of the union in regard to the closure of the footwear department and has contended that it was a real and bona fide closure and the company brought about the closure when it was found from the working of the department during several recent years that it was becoming uneconomical and unprofitable, because the stock of finished products was accumulating while the sale was decreasing. The company has further contended that the necessary legal formalities of retrenchment were duly complied with and the required notices were given and statutory compensation was offered to each employee. It is also the company's case that all the 17 concerned employees except one named Makhan Lal Ghose have already accepted the statutory retrenchment benefits offered by the company in full and final settlement of their claims, and in view of this position the dispute covered by this issue has become non-existent and, consequently, the reference in regard to this issue is no longer maintainable.

As regards the general background of the case, the company has admitted the award of 1952 but has contended that on account of its weak financial condition it could not fully implement the award

It is an admitted position that the footwear department was closed with effect from 27th June 1960. It is proved that this department was started in 1950. It is now well settled that the employer has the inherent and inalienable right to close down his business or any part of it and where the closure is found to be real and bona fide, the only legal liability of the employer would be to pay compensation under section 25FFF read with section 25F of the Industrial Disputes Act, though the termination of services of the workers in the closed business or part of business would not strictly amount to retrenchment as defined in section 2(00) of the Industrial Disputes Act. This legal position may be said to arise from the principles decided in the case of J. K. Hosiery Factory Ltd., v. Labour Appellate Tribunal of India, [1956 (II) LLJ, 4], General Product Ltd. v. Ambata Puzha Taluk Head-load Conveyance, [1957 (II) LLJ 447], Barsi Light Railway Co. Ltd. and another v. Joglekar and others, [1957 (I) LLJ 243], Ratnam & Co. v. Their workers, (12 F.J.R. 156) and Pipraich Sugar Mills Ltd. v. Their workmen, [1957 (I) LLJ 235]. Retrenchment as defined in section 2(00) postulates continuance of a business and a discharge consequent on closure of business cannot amount to retrenchment in the establishment. There is no statutory provision in the Industrial Disputes Act laying down the conditions of closure except section 25FFF, which provides for compensation to be paid to the employees whose services are terminated on account of the closure. The legal position, therefore, is that closure of a business with discharge of workers employed therein if proved to be real and bona fide would only entitle the discharged workers to compensation according to the provisions of section 25FFF and section 25 of the Industrial Disputes Act, but such discharge not being strictly retrenchment as defined in section 2(00), all the pre-conditions of retrenchment need not be observed by the employer. This being the position, there is no point in the union's contention that even if the closure in the present case is found to be real and bona fide, the consequent discharge of the workers by way of retrenchment shall be invalid because all the pre-conditions of section 25F were not complied with. I may state here at once that I am satisfied from the evidence that all the statutory pre-conditions of section 25F were not strictly complied with, because apart from all other considerations it is not proved that notice in the prescribed manner, i.e., Form P attached to the Industrial Disputes Rules, was at all served on the appropriate Government. All the three conditions (a), (b) and (c) of section 25F are conjunctive and they must be fully complied with in toto in order to make a retrenchment legal and valid.

I will now proceed to consider and decide whether the closure of the footwear department was real and bona fide. As it is the inherent and inalienable right of the employer to decide whether a business carried on by him or any part of it should be closed or not, it is also his inherent right

the evidence of O.P.W. 1 Shri
the Rubber Technologist of th
inception in 1940, and from
statement relating to the
submitted by him, in regard
hardly any challenge as to
trend of the business of this
showed accumulation of sto
during the period from 1957
sales is clearly discernable yea
to 1960. There is no sufficie
side of the union to prove the
ments submitted by Shri
O.P.W. 1, to be wrong or
public limited company and
directors at a meeting held
decided to close the foo
because it was running une
efficiently. I am unable to
limited company would go to
a profitable and economically
a department simply to spite
workers and put the workers
tress. Furthermore, in this c
were working in this departm
of 17 members of the executi
union were workers in th
the closure of this departme
small part of the employees
of the members of the executi
union. P.W. 2 Shri Atul Bag
of the union and is still worki
I find that the closure of the
was real and bona fide, and it
transaction or a mere pretenc
company with the mala fide
of some workers and teaching

After the above finding of
crucial question of closure of
ment, the next question woul
company was justified in di
workers of the footwear dep
and ordinarily, the closure of
ment, in which these worker
working, would mean the te
services. The union has, how
with the plea that the compa
terminated their service en bl
employ them in other departme
without observing the principl
go' in relation to the other wor
ing in the other department.
Chandra Majumdar has only
annexures to the union's writt
and 7, which purport to sho
different departments in whic
workers of this case served
men who are now working in
He has also referred to the fi
union's written statement, whi
the date of appointment of each
and also to annexures B and
show the persons who were
In cross-examination, however
pelled to admit that "all these
mainly worked in the shoe

the 3rd January 1961, the
ween Messrs. A. T. Coomer,
ad, Calcutta-35, and their
by A. T. Coomer Workers'
Road (West), Calcutta-35,
entioned in the said order
ed in the second schedule to
s Act, 1947 (XIV of 1947),
adjudication to the Third

aid Third Industrial Tribunal
State Government its award
dispute;

pursuance of the provisions
Industrial Disputes Act, 1947
Governor is pleased hereby to
rd as shown in the annexure

NEXURE

industrial dispute between
omer, 1 Amritalall Daw Road,
their workmen represented by
orkers' Union, 34 Deshbandhu
alcutta-35 (case No. VIII-

THIRD INDUSTRIAL
, WEST BENGAL

Present:
, Judge, Third Industrial
Tribunal.
None.
Fatik Ghosh, Vice-President.

AWARD

R./IR/11L-546/60, dated the
Government of West Bengal,
tment, referred under section
Disputes Act. 1947, the
tween Messrs. A. T. Coomer,
oad, Calcutta-35. and their
by A. T. Coomer Workers'
hu Road (West), Calcutta-35,
specified in the schedule to
Tribunal constituted under
dustrial Disputes Act. 1947,
808-I.R./IR/3A-2/57, dated
, for adjudication.

Issue

ination of service of the
kers is justified?
ny, including reinstatement,
led to?
a Karar, (ii) Shri Nirmal
s, (iii) Shri Ramkrishna

filed its written statement of claim on 27th February 1961. On the date of appearance on 10th February 1961 the company through its Manager, Shri S. Hazra, entered appearance and the union through its Vice-President Shri Fatik Ghosh. On the prayer of the union the case was adjourned to 27th February 1961 for filing written statement of claim. The union complied with the direction on the date fixed and the next date was fixed on 21st March 1961 for filing written statement by the company. But the company did not take any step on the date fixed. So the case had to be adjourned on several occasions and special notice by registered post with acknowledgment due was sent to the company for appearance. But the company did not turn up in spite of receipt of the registered notice. On 5th June 1961 the case was fixed for ex parte hearing. The company was contacted over the telephone and last opportunity was given to appear and contest. On 18th May 1961 the Vice-President of the union and the representative of the company attended and the company at long last filed a very short written statement but did not want to adduce any evidence. However, for ends of justice, the case was fixed on 29th May 1961 for hearing just to enable both parties to adduce evidence and to proceed in a regular way with the case. But the company again did not turn up in spite of full knowledge of the date of hearing and without any sufficient cause being shown for the non-attendance. The union only attended. So the tribunal had no other alternative but to proceed with the case under rule 21 of the West Bengal Industrial Disputes Rules, 1958, and the evidences adduced on the side of the union was taken and arguments heard.

The award was reserved.

Decision

The only issue formulated by the Government for adjudication in the present reference is:

> Whether the termination of service of the following workers is justified? What relief, if any, including reinstatement, are they entitled to?
>
> (i) Shri Arabinda Karar, (ii) Shri Nirmal Kumar Das, (iii) Shri Ramkrishna Goswami, (iv) Shri Bhupal Chakraborty and (v) Shri Gauranga Deb.

It was held by the Hon'ble High Court at Kerala, in a recent decision reported in A.I.R. 1961 Kerala 44, that "undoubtedly the management of a concern has power to direct its own internal administration and discipline but the power is not unlimited and when a dispute arises, Industrial Tribunals have been given the power to see whether the termination of service of the workmen is justified and to give appropriate relief. The Labour Tribunal has jurisdiction to investigate and satisfy itself that the procedure violated by the employer is not fair, honest and not in violation of the principles of natural justice, that the conclusions arrived at are not perverse and the motive for the enquiry is bona fide and the enquiry is not

Volume I, L.L.J. 266 and 1959, Volume I, L.L.J. 285) that in a case of dismissal on misconduct, the tribunal will interfere only when (1) there is want of good faith, (2) when there is victimisation on unfair labour practice, (3) when the management has been guilty of a basic error or violation of the principles of natural justice and (4) when on the materials the finding is completely baseless or perverse.

In the present case the grievance of the union is that the company without assigning any reason and without any allegation of charge against the five workmen named in the reference terminated their services which is not only wrongful but against all canons of justice. The union's further contention is that the five concerned workmen were closely connected with the newly framed workers' union and because of their trade union activities, the company all on a sudden stopped them from resuming their duties and thereby wrongfully terminated their services without notice and without assigning any reason.

The company did not properly contest the case but simply filed a very brief written statement on 18th May 1961 in which it was stated that the concerned workmen were employed as learners with some remuneration as pocket allowance and that they were not regular in their attendance and were not properly attending to the works and disobeyed the trainers. So they were not given appointment. So it is clear from the written statement filed by the company that the concerned workmen were actually employed by the company and they were being paid for their services and because of their misconduct as alleged in the written statement of the company, they were not allowed to continue. If that is so, the company, in all fairness, should have given the concerned workmen opportunities of explaining their alleged conducts. The company should have called for explanations from the concerned workmen of the alleged misconducts, if any, but the evidences of the workmen before this tribunal are that there was nothing of the kind. There was no charge-sheet against any one of the concerned workmen and no enquiry as to the correctness or otherwise of the alleged misconduct on the part of the workmen. P.W. 1 Shri Arabindo Karar says that he was employed in the Grinding Department of the company at a monthly salary of Rs. 52. P.W. 2 Shri Bhupal Chandra Chakraborty says that he served under the company from November 1958. He was drawing a salary of Rs. 50 per month. He used to work in the Capstan Lathe Machine. P.W. 3 Shri Ram Krishna Goswami was working as a fitter from 1957. His salary was Rs. 60 per month. P.W. 4 Shri Gouranga Charan Dey also served under the company for two years from 1958. He was getting monthly remuneration of Rs. 60 at the time of termination of service. The fifth workman Nirmal Das was drawing a salary of Rs. 56 per month. It is in the evidence of four of the concerned workmen, P.Ws. 1 to 4 and also in the evidence of P.W. 5 Shri Fatick Ghosh, the Vice-President of the Union, that prior to the formation of the union, the company was not

for the first time, formed
August 1960 and the unio
by the proper authority.
the document, Ex. 5. It w
concerned workmen became
the newly formed union.
Karar became the Secretary
Shri Bhupal Chandra Chak
Secretary and the other thr
Nirmal K. Das, Shri Ram
Shri Gouranga Dey were me
committee of the union
evidences of P.Ws. 1 to 5, t
20th August 1960 and the
along with others held mee
the gate of factory on 21st
calling upon all workers to
selves as members of the un
collection of funds for the
this the company stopped th
factory from 25th of August
workmen were not allowed t
compound. The company
reason for terminating the
men who took leading parts
union and took upon them
of the organisation. This
appear from the documen
Presumably, therefore, the
the trade union activities o
men, suddenly terminated t
giving them any notice o
opportunity to explain the
There was no charge-sheet;
called for from any of the fi
Therefore the company vio
natural justice and acted arb
ly. In doing so the compa
the facts and circumstance
evidence was actuated by
and unfair labour practice.
workmen are entitled to be

Considering the entire fa
disclosed in evidence and di
satisfied to hold that there
the termination of the servi
cerned workmen who had to
their part, either alleged or
of them are entitled to be
ingly I direct their reinstat
without any break of servic
they should get arrears of pa
forced unemployment.

This is my award which i
a month of its publicatio
Gazette".

Dictated and corrected by

J. N. MANDAL, Judge.

JITENDR
Judge, Third

The 6th June 1961.

By order

th November 1960, the industrial dispute n Messrs. Paper Distributors ns Range, Calcutta-1, and their d by the Orient Paper Mills oncerns' Employees' Union, ane, Calcutta-7, regarding the the said order being matters d schedule to the Industrial (XIV of 1947), was referred the First Industrial Tribunal;

said First Industrial Tribunal he State Government its award al dispute;

n pursuance of the provisions of Industrial Disputes Act, 1947 e Governor is pleased hereby to ward as shown in the annexure

ANNEXURE

n industrial dispute between Distributors Private Ltd., 7 Calcutta-1, and their workmen the Orient Paper Mills Ltd. ncerns' Employees' Union, 7 r Lane, Calcutta-7, under Gov- r No. 5699I.R./IR/11L-472/60, ember 1960. (Case No. VIII-584/

E FIRST INDUSTRIAL TRIBUNAL

Present:

. GUHA ROY, Judge.

Appearances:

Mr. K. P. Mukherjee, Counsel.

r. D. Sengupta.

AWARD

e made by the Government of bour Department, No. 5699I.R./ ated the 5th November 1960, of the Industrial Disputes Act of te between Messrs. Paper Distri- d. on the one hand and their nted by the Orient Paper Mills Concerns' Employees' Union on ere the following two issues,

the termination of service of armull Haritwal is justified? To ief, if any, is he entitled?

Shri Nagarmull Haritwal is o Puja bonus and leave salary nd 1959?

s had filed their written state- ed at an agreement on 23rd May ference was fixed for hearing. ion of compromise to which were ns of settlement. Under these nt the company undertook to pay 0 in all within a fortnight in full nt of all

irmed that he had no further made any claim either in the form or re-employment and/or reinstatement or money claim on the said company or any of the companies mentioned in the written statement.

Instead of passing an award on the filing of this compromise and the terms of settlement I thought it desirable to wait for a fortnight to see whether the money was paid or not. Nagarmull Hawitwal has now filed a petition stating that as per agreement, dated 23rd of May 1961, he has received a sum of Rs. 2,750 by cheque and he has prayed for an award being passed as per terms of agreement. As the agreement has been fully implemented it would be meaningless to pass an award in terms of the agreement and it would be right and proper, in my opinion, to pass a 'no-dispute' award on the basis of the agreement and its implementation. But as in the petition of compromise there was a prayer on behalf of both the parties that there should be an award in terms of the settlement, I asked Shri K. P. Mukherjee representing the employers and Shri M. Saha who represented the union as Shri D. L. Sengupta and who signed the petition of compromise on behalf of the union was not available and they agreed that as the terms of settlement have been already implemented, it would be proper to pass a 'no-dispute' award and they would have no objection to such an award being passed provided the terms of settlement were made part of the award. A 'no-dispute' award is accordingly passed on the basis of the petition of compromise and the terms of settlement and of the petition filed by Shri Nagarmull Haritwal that he has received payment according to the terms of settlement and that he has no further claims of any kind on the company or any other company. The petition of compromise together with the terms of settlement and the petition filed by Shri Nagarmull Haritwal that he has received the money are to be made parts of the award.

Taken to my dictation and corrected by me.

S. N. GUHA ROY, Judge.
9-6-61.

S. N. GUHA ROY,
Judge, First Industrial Tribunal.

The 9th June 1961.

BEFORE THE FIRST INDUSTRIAL TRIBUNAL, WEST BENGAL

In the matter of Government of West Bengal, Labour Department, order No. 5699I.R./IR/11L-472/60, dated the 5th November 1960

And

In the matter of an industrial dispute

Between

Messrs. Paper Distributors (P) Ltd., 7 Lyons Range, Calcutta-1 (hereinafter to be known as company)

And

Shri Nagarmul Hawitwal.

Most respectfully sheweth:

1. That the parties herein have settled all outstanding matters including the subject matter of the present reference. A copy of the terms of settlement is annexed hereto and is marked with the letter A.

2. Your petitioners jointly pray that an award be made in accordance with the terms of settlement referred to above.

Dated the 23rd day of May 1961.

For the company:
K. P. Mukherjee, Secretary,
Bharat Manufacturing Traders and Dealers' Association.

For the union:
D. L. Sen Gupta.
Nagarmull Haritwal.

Annexure A

BEFORE THE FIRST INDUSTRIAL TRIBUNAL, WEST BENGAL

In the matter of Government of West Bengal, Labour Department, order No. 5699I.R./IR/11L-472/60, dated the 5th November 1960

And

In the matter of an industrial dispute

Between

Messrs. Paper Distributors (P) Ltd., 7 Lyons Range. Calcutta-1 (hereinafter to be known as company)

And

Shri Nagarmal Haritwal

Terms of settlement

1. That the company will pay a sum of Rs. 2,750 only within a fortnight to Shri Nagarmal Haritwal in full and final settlement of all his claims in any shape or form including the claim of re-employment and/or reinstatement either arising out of this reference or otherwise.

2. The said Shri Nagarmal Haritwal hereby confirms that he has no further claim or shall not make any claim either in the form of re-employment and/or reinstatement or monetary claim on the said company or any of the companies mentioned in the written statement filed in the present proceedings before this learned tribunal.

Dated the 23rd day of May 1961.

For the company:
K. P. Mukherjee, Secretary,
Bharat Manufacturing Traders and Dealers' Association.

D. L. Sengupta,
for the union.

By order of the Governor,
S. C. MUKHERJEE, Asst. Secy.

56, dated the 12th Novembe
dispute between Messrs. B
Company Limited, Titaghur,
after referred to as the said
workmen represented by the B
Company Limited's Staff
Mistry's House, Abdul Qud
24-Parganas (hereinafter re
Staff Association), and the B
Works Mazdoor Union, Dey B
Talpukur, 24-Parganas (here
the said Mazdoor Union), re
specified in the Schedule the
adjudication to the Second I

And whereas on appeal file
made by the said Second Indu
aforesaid industrial dispute,
sent back the case on reman

And whereas under the G
Bengal, Labour Department,
IR/10L-48/60, dated the 7t
industrial dispute between th
their workmen represented
Association and the said Ma
ing the issue mentioned in th
matter specified in the Thir
Industrial Disputes Act, 1947
referred for adjudication to t
Tribunal;

And whereas under the G
Bengal, Labour Department,
IR/10L-48/60, dated the 4th
industrial dispute between the
their workmen represented
Engineering Sramik Union,
Talpukur, 24-Parganas, the sa
and the said Mazdoor Union
mentioned in the said order bei
in the Third Schedule to the
Act, 1947 (XIV of 1947), was
cation to the Second Industria

And whereas the said Second
at the desire of the parties, for
ence, heard all the said cases
and submitted to the State Go
dated award on the said three

Now, therefore, in pursuanc
of section 17 of the Industrial
(XIV of 1947), the Governor i
publish the said award as sho
hereto.

ANNEXURE

**In the matter of three industria
between Messrs. Britannia
Ltd., Titaghur, 24-Parganas
men represented by (1) t
neering Sramik Union, B
Talpukur, 24-Parganas, (
Engineering Co. Ltd.'s Sta
Bhawan, Park Road, P.O. T**

th November 1956 (sent back
e Supreme Court the award of
ving been published in the
e", dated the 10th October
.R./IR/10L-48/60, dated the
d No. 4117IR/IR/10L-48/60,
gust 1960. (Cases Nos. VIII-
s/60 and VIII-382/60.)

SECOND INDUSTRIAL
L, WEST BENGAL

Present:

R. Judge, Second Industrial
Tribunal.

pany: Shri K. B. Basu,
ri J. N. Chatterji, Deputy
Indian Egineering Associa-

n: Shri Jagannath Pandey,
a and Shri Ram Sen (officers
erent Unions representing the

strial disputes arising between
relating to the same question
nt years have been heard
e of the parties for the sake
first dispute was referred by
No. 4831-I.R./D/10L-68/56,
mber 1956, for adjudication of
is payable for the years 1952,
his dispute was heard by my
who made an award on 10th
ting the claim. Against this
appeal to the Supreme Court
ich was admitted and by its
9th March 1960, the Supreme
award and remanded the case
the light of certain reported
id court mentioned in the
ing both the parties an oppor-
h statements and lead fresh
ord was received back in this
May 1960 and thereafter the
g Co. Ltd.'s Staff Association
eering Works Mazdoor Union
orkmen filed a joint written
ritannia Engineering Co. Ltd.,
red to as the Company, also
en statement. Subsequently,
tatements were filed by both
tunity was given to the parties
ce and they have done so.

pute was referred on 7th May
t order No. 2060I.R./IR/10L-
ication of the quantum of
the year ended 31st December
pute also the workmen are
abovenamed two Unions, viz.,
Staff Association. the latter
uently added by Government
IR/10L-48/60, dated the 26th

this dispute the workmen are represented by Unions, viz., the abovenamed two Unions and a third Union named Britannia Engineering Sramik Union. The first two Unions filed a joint written statement and the Sramik Union filed a separate written statement in this case.

3. Though the issues referred to in these cases do not mention what kind of bonus is to be adjudicated upon, the Unions have made it clear in their written statements that the bonus they claim is profit-sharing bonus. The general case of the unions is that the company is a prosperous concern and has been making large profits but that excepting paying one month's customary bonus during the Pujas every year it did not pay any profit bonus in the past. It is next stated that such bonus having been claimed for the year 1951 a dispute arose and was referred along with other disputes to the Fourth Industrial Tribunal for adjudication. That Tribunal rejected the claim on the finding that there was no available surplus but on appeal the Labour Appellate Tribunal granted one month's pay as such bonus. With regard to bonus for the years 1952 to 1954 which is the subject matter of the first dispute the claim of the unions is for three months' basic wages, with regard to 1955—the subject matter of the second dispute—the claim is for five months' basic wages and with regard to the years 1957 and 1958—the subject matter of the third dispute—the claim is for three months' basic wages for 1957 and four months' basic wages for 1958, in all cases over and above the customary bonus already paid.

4. The company denies in all these cases that it had paid any customary bonus during the Puja every year and states that the said bonus had been paid out of profit and that after deduction of prior charges and rehabilitation cost of machineries and buildings, according to the Full Bench formula of the Labour Appellate Tribunal, there would be no available surplus for awarding any additional bonus during any of these years.

5. The following are the issues referred for adjudication in these disputes:

In the first dispute: The quantum of bonus payable by the company to its workers for the years 1952, 1953 and 1954.

In the second dispute: Are the workmen entitled to any additional bonus for the accounting year ended 31st December 1955? If so, what should be the quantum of such bonus?

In the third dispute: Are the workmen entitled to bonus for 1957 and 1958 payable in 1958 and 1959, respectively? If so, what should be its quantum and mode of distribution among different categories of workmen?

6. There is no dispute between the parties that the amount of bonus for each of the relevant years should be calculated according to the Full Bench formula of the Labour Appellate Tribunal. The financial year of the company follows the English calendar year. The company has filed the balance-sheets for these years as also the previous balance-sheets from 1939 (Exts. A series) and has submitted

Rs. 7,63,268 in 1952. Rs. 3,28,188 in 1953, Rs. 4,14,822 in 1954, Rs. 7,47,552 in 1955. Rs. 4,01,058 in 1957 and Rs. 3,06.352 in 1958. These figures are correct according to the balance-sheets which have not been challenged. The company has added back to the above amounts the provisions for income tax and sales tax (the latter for 1958 only) and the provisions for depreciation in the respective years besides certain ex gratia payments made in 1955, 1957 and 1958 to which no objection has been taken, the same amounts having been added back by the unions also. There has, however, been a mistake in the company's statement (Ext. B) regarding the amount of depreciation for 1958. The correct figure would be Rs. 5,22,668 as in the balance-sheet and not Rs. 5.52.668 as mentioned in the company's statement. Adding back the amounts of the said payment and provisions we get the following figures:

Rs. 14,76,432 for 1952,
Rs. 7,58,491 for 1953,
Rs. 9,82,308 for 1954,
Rs. 14,99,372 for 1955,
Rs. 9,80,978 for 1957, and
Rs. 13,26,804 for 1958.

7. The company has next added back the Puja bonus paid in the previous year in each of these relevant years. To this the unions have objected because it was not paid as profit bonus. The unions' evidence is that the company has been paying during Puja every year a bonus equivalent to one month's basic wages to its workmen since 1948 and, so far as the clerical staff is concerned, since 1941 and that this bonus is paid irrespective of profit and loss as a customary bonus. The company has not adduced any evidence to the contrary and nothing has been produced to show that it was linked to profit or was a kind of profit bonus. The unions have produced in this connection a copy of the written statement filed by the company in the case before the Fourth Industrial Tribunal in the year 1953 in which there was a claim for bonus by the workmen (issue No. 6). With regard to that claim the company submitted in the said written statement that it was paying one month's bonus before Puja every year irrespective of loss and profit. It may be that the company did not actually incur any loss in any of the years in which this bonus was paid but that would not make any difference in view of this clear admission. The said tribunal as also the Labour Appellate Tribunal found that the company was paying this bonus irrespective of profit and loss. The question was therefore settled in the previous adjudication and cannot be allowed to be raised again. The amount of such bonus not having been paid as profit bonus cannot be added back to the net profit. Of course, such amount, if added back, will increase the gross profit and to that extent will be favourable to the workmen and the unions also at one stage agreed to the amounts being added back under protest, but in view of the decision of the

statement certain other ite
claims as legitimate expendi
item in the balance-sheet is
sion, viz., commission pa
agents, commission paid to
commission paid to the staff
items of commission repre
amount every year and it
increase year after year.
company's accountant is t
are paid under written contra
argued that these are le
Though the contracts have n
evidence is that the contract
the auditors before they allo
entered in the balance-sheet
reason to discard this evide
Crompton Parkinson Ltd. v.
in 1959 (II) L.L.J. 382, th
that service fees paid under
mate business expenditure an
absence of cogent and compe
to the definite conclusion
purported expenditure was sh
with the express object of
with a view to deprive the wo
'it is no part of the duty of
to substitute its own judgme
was not commercially justifie
judgment exercised by th
directors in whom in law th
company is confined. There
to the contrary in this case
principle laid down above
should be taken as
expenditure.

9. The unions have next
for 1954 paid during the yea
be paid under the decision of
Tribunal already referred to
November 1955 and so althou
relate to the year 1955, it m
item of legitimate expenditure
of the said decision. Certain
in the balance-sheets represent
right. advances and depos
debenture issue expenses have
the unions on the ground th
treated as legitimate expendi
which they were written off.
became losses when they sh
irrecoverable and so they
relate to the years in which
and accordingly written off.
be sufficient to refer to the de
Court in the case of Ganesh
employees, reported in 1961
which it was held that for de
profits the amount of irrecov
deducted. Certain amount
were next objected to by the
back, but these amounts were
were payable under contracts a
ed legitimate business expendi
of miscellaneous expenses we
added back but, according to
accountant of the company

expenses. They were there- ess expenditure. An item of vious years occurring in the 1957 only was objected to. be explained as the unions did company's accountant on the ose, Counsel for the company, djustment must have been change in the method of pre- ts after introduction of the Act of 1956. That is very ence of any evidence that this he balance-sheet to minimize it. I am not prepared to dis-

y has next claimed certain us profits and has sought to e gross profits found above. The fit of the agency department shown in the balance-sheet of p to 1957 (in 1958 there was a e expenditure incurred for that was deducted in the previous Labour Appellate Tribunal and rdingly raised no objection to ve deducted the same in their s. however, been stated by the any has not taken into account urred in connection with the d that the proportionate expen- naging Agents' and Directors' ld be added back to the gross expenditure was not separately portionate expenditure on this scertained or calculated on any figures suggested by the unions accepted. In any case, the ge and would not materially The company has next claimed ome certain small items like nsfer fees and rent. but it has at they were not earned in the business of the company which xtraneous income, according to upreme Court in Tata Oil Mills' L.J. 250. Next there is an rovision for expenses. This ing made in the normal course rovisions made for expenses and be claimed as an extraneous nciple laid down in the above stated. the company used to -sheets the patents written off 58 the patents were included in ts and depreciation on account rights was separately shown amount of Rs. 25,090 has been ce-sheet as depreciation on this claimed that this should be s not. however, an income and d as an item of extraneous esented depreciation it must be ded in the notional normal has to be deducted as a prior f addition of tools has next ach of the years from 1952 to s been given that during these item of extraneous income besides the income of the agency department in respect of which the company can claim deduction is profit on sale of fixed assets which occurred in some of the years. This would be an extraneous income according to the decision in Tata Oil Mill's case. Deducting the amounts on these two heads as shown in Ext. B, the gross profits for the relevant years will be as follows:

		Rs.
1952	...	13,43,634
1953	...	6,77,627
1954	...	9.38,320
1955	...	14,85,738
1957	...	9.78.055
1958	...	13.03.230

11. The company has next deducted the prior charges. As to notional normal depreciation the figures have been accepted by the unions. The amounts of income and wealth taxes deducted by the company are less than the amounts deducted by the unions. Income tax has been calculated by the company at 7 annas in the rupee on the adjusted profit after deducting the actual depreciation allowed up to 1955 and at the rate of 51.5 per cent. for 1957 and 1958. As regards the actual amounts of wealth tax the unions have accepted the company's figures. Since the figures of gross profits, as calculated in the preceding paragraph, have been less than the figures of adjusted profits, as shown in the income tax calculations in Ext. B(2), the income taxes payable should be reduced and calculating income tax at the abovementioned rates on the profits shown in the preceding paragraph after deducting therefrom the actual depreciation allowed, as mentioned in Ext. B(2), and adding the wealth taxes paid in 1957 and 1958, as shown in Ext. B, we get the following figures of notional income tax payable:

		Rs.
1952	...	5,23,171
1953	...	2.32,763
1954	..	3,11,968
1955	...	3,07,698
1957	...	1,62.447
1958	...	4,06,937

Deducting these amounts and the amounts of notional normal depreciation, as shown in Ext. B, the amounts of gross profits are found to be as follows:

		Rs.
1952	...	7,17,607
1953	...	3.27,438
1954	...	5,17,671
1955	...	8.91,047
1957	...	3,41,220
1958	..	4.33,334

12. The next item of prior charge is the return on paid-up capital. The company's original

capital by Rs. 30 lacs. But this was not fully subscribed during the year. Only a part was subscribed by October 1955. The company has not therefore claimed any return on the additional capital in 1955. By 1957 the increased share capital was fully subscribed and the company has therefore claimed Rs. 2,40,000 as interest on the total share capital of Rs. 40 lacs at 6 per cent. In 1957 certain preference shares were issued at 6 per cent. and the rate was increased from 6 per cent. to 7 per cent. in 1958. The value of the preference shares was Rs. 1,74,200 in 1958 and the company has claimed interest on the same at 7 per cent. amounting to Rs. 12,194 over and above Rs. 2,40,000 in 1958. The unions did not object to the amounts claimed up to the year 1955 but they objected to the amounts claimed for 1957 and 1958. They have mentioned in their statement lesser amounts for these years. It is not clear, however, wherefrom they got these amounts. Comment has been made on the fact that the Assistant Commercial Manager of the company could not give the date on which the preference shares were issued. I do not see how the date is relevant because no interest has been claimed on these shares until they were fully subscribed. The directors' report for 1957 shows that 1,742 preference shares of Rs. 100 each at 6 per cent. had been allotted in 1957 and the report for 1958 shows that the rate of interest of the said shares was increased from 6 per cent. to 7 per cent. with effect from 30th May by a special resolution passed at an extraordinary general meeting of the shareholders, the total number of such preference shares having been increased to 6,948 in 1958. But interest has been claimed only on the value of the preference shares subscribed at the beginning of the year 1958 and not on those subscribed later on in the course of the year. This value was Rs. 1,74,200 as deposed to by the Assistant Commercial Manager, Shri R. S. Jain. I cannot therefore see any ground for objection to the amount claimed as return on these shares. A curious argument was advanced on behalf of the unions that the company was not entitled to claim any interest on the additional share capital of Rs. 30 lacs because this capital was raised for expansion of the company's business and development of a wagon building plant at Mokamah and up to the year 1958 no income or profit had resulted from the said plant. That plant is a part of the company's undertaking and the accounts thereof are kept jointly with the accounts of the company's Titaghur factory. Whether there had been any return or not during the years 1957 and 1958 from the company's investments in the Mokamah plant is altogether immaterial in deciding the question of return on the additional share capital. The shareholders who had subscribed this additional capital were entitled to a return on their shares since the company made an overall profit during these years and so the company is also entitled to claim a return thereon in the same manner as on the original capital. I accept therefore the above figures of return on share capital.

13. The next item is interest on working capital. The company has claimed interest

reserve, machinery reserve cre
in 1952, reserve for depreciatio
reserve for doubtful debts
Rs. 10,000 only up to 1954
thereafter to Rs. 1,10,000.
share premium account and pr
The company's accountant ha
the company utilised all its re
of the business in each of the
it was always in want of mo
on in spite of such utilisatio
drafts taken from the banks.
overdrafts has been produced
company was indebted to th
month throughout all these y
large amounts (Ext. C). Si
capital of the company was
the company manufactures
required for engineering, jute
it must require large quantitie
value for the purpose and it is
ceivable that it must always
large cash during all these ye
sometimes amounted to Rs.
later years. In this position
by the accountant that all th
drawn upon and utilised in the
capital cannot be disbelieved.

14. The union's case is th
not actually available as liquid
not have been used as wor
witness for the unions has give
company utilises its surplus
reserves in the balance-sheets.
fixed assets like lands and bu
company has thus got excess
not required for its busines
contended that the reserves we
hardly possible to accept s
business organisation can a
suggested and proceed to inve
liquid assets in lands and bu
always in need of cash. as ma
drawings from the banks on
The unions' witness is only
planning department rising
workers and is not expected to
knowledge on the matters on
He has admitted that he drew
the mere fact that the deprecia
were accumulating more and m
according to the balance-sheets
increasing because the compa
lays aside part of its surplus
upon when necessary. This fa
the conclusion drawn by the wi
the machinery reserve the unio
must have been utilised only f
machineries. Here also ther
supporting this contention. T
other hand is that the compan
or two machines every year cost
of rupees. This is the evidence
Works Manager. The machin
with an amount of Rs. 3½ lac
gradually increased to Rs.

955;

No. 11-I, dated the 2nd July
shed at pages 2608-2610 of Part
lcutta Gazette" of the 5th July

No. 28-I, dated the 6th June
shed at pages 2055-2058 of Part
Calcutta Gazette" of the 13th

No. 30-I, dated the 29th October
shed at pages 5387-5390 of Part
"Calcutta Gazette, Extra-
of the 31st October 1958;

No. 31-I, dated the 29th Octo-
published at pages 5390-5393 of
the "Calcutta Gazette, Extra-
of the 31st October 1958;

No. 32-I, dated the 29th Octo-
published at pages 5393-5394 of
the "Calcutta Gazette, Extra-
of the 31st October 1958;

No. 33-I, dated the 29th
958, published at page 5394 of
the "Calcutta Gazette, Extra-
of the 31st October 1958;

No. 34-I, dated the 29th
958, published at pages 5395-
art I of the "Calcutta Gazette,
nary", of the 31st October 1958;

No. 9-I, dated the 3rd April
lished at pages 1511-1512 of
the "Calcutta Gazette" of the
1959; and

No. 23-I, dated the 25th
959, published at page 3213 of
the "Calcutta Gazette" of the
mber 1959.

By order of the Governor,

B. N. CHAUDHURI, Dy. Secy.

RCE AND INDUSTRIES DEPARTMENT

Mines and Power

ORDERS

E-18/60. — 25th May 1961.—
pleased to accept the resignation
Trisuli Prosad Sikdar, Lecturer-
ectorate of Mines and Minerals,
th effect from 1st May 1961. The
Sikdar under this Government
, be treated to have been
ffect from the aforesaid date.

By ord

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tric Supply Corporation Limited, licensees of the Calcutta and District Consolidated Electric License, 1946 (hereinafter referred to as the said licensees), for taking from the said licensees the supply of energy at their respective premises on Ichapore Road and Makardah Road, Dasnagar, Howrah, in the district of Howrah, situated outside the area of supply of the said licensees;

And whereas the said premises are not situated within the area of supply of any other licensee;

Now, therefore, in exercise of the power conferred by section 27 of the Indian Electricity Act, 1910 (IX of 1910), the Governor is pleased to authorise the said licensees to supply energy to the said Shri Panchanan Khan and Shri Panchanan Koley at their respective premises on Ichapore Road and Makardah Road, Dasnagar, Howrah, in the district of Howrah, for domestic and industrial purposes and to lay down and place electric supply lines for that purpose subject to the following conditions and restrictions, namely:—

The authority hereby conferred shall—

(*a*) remain in force until—

(*i*) the area of supply of the said licensees is extended so as to include within its limits the said premises of Shri Panchanan Khan and Shri Panchanan Koley on Ichapore Road and Makardah Road, respectively, in Dasnagar, Howrah, in the district of Howrah, or

(*ii*) a licence is granted to any other person whose area of supply includes the said premises within its boundaries and such person is in a position to supply energy to the said premises, or

(*iii*) any transmission or distribution system for supplying energy outside the area of supply of the said licensees is established by or on behalf of the State Electricity Board,

enabling energy to be supplied at the said premises without such authority;

(*b*) be subject to the restrictions referred to in the third proviso to section 27 hereinbefore mentioned.

By order of the Governor,

P. M. DAS GUPTA, Dy. Secy.

No. 1719MP/E1.3L-8/61.—16th May 1961.—Whereas Shri Jiban Krishna Roy has entered into an agreement with the Calcutta Electric Supply Corporation Limited, licensees of the Calcutta and District Consolidated Electric Licence, 1946 (hereinafter referred to as the said licensees), for taking from the said licensees the supply of energy at his premises on Ichapore Road, Santragachi, Howrah, district of Howrah, situated outside the area

Now, therefore, in exercise of the power, conferred by section 27 of the Indian Electricity Act, 1910 (IX of 1910), the Governor is pleased to authorize the said licensees to supply energy to the said Shri Jiban Krishna Roy at his premises on Ichapore Road, Santragachi, Howrah, in the district of Howrah for domestic purposes and to lay down and place electric supply lines for that purpose subject to the following conditions and restrictions, namely:—

The authority hereby conferred shall—

(a) remain in force until—

(i) the area of supply of the said licensees is extended so as to include within its limits the said premises of Shri Jiban Krishna Roy on Ichapore Road, Santragachi, Howrah, in the district of Howrah, or

(ii) a licence is granted to any other person whose area of supply includes the said premises within its boundaries and such person is in a position to supply energy to the said premises, or

(iii) any transmission or distribution system for supplying energy outside the area of supply of the said licensees is established by or on behalf of the State Electricity Board,

enabling energy to be supplied at the said premises without such authority;

(b) be subject to the restrictions referred to in the third proviso to section 27 hereinbefore mentioned.

By order of the Governor,
P. M. DAS GUPTA, Dy. Secy.

No. 2153MP.—5th June 1961.—Whereas Shri Ananta Kumar Mondal has entered into an agreement with the Calcuta Electric Supply Corporation Limited, licensees of the Calcutta and District Consolidated Electric Licence, 1946 (hereinafter referred to as the said licensees), for taking from the said licensees the supply of energy at his premises No. 20, 'Z' Road, Dasnagar, Howrah, in the district of Howrah, situated outside the area of supply of the said licensees;

And whereas the said premises are not situated within the area of supply of any other licensee;

Now, therefore, in exercise of the power conferred by section 27 of the Indian Electricity Act, 1910 (IX of 1910), the Governor is pleased to authorize the said licensees to supply energy to the said Shri Ananta Kumar Mondal at his premises No. 20, 'Z' Road, Dasnagar, Howrah,

and restrictions, namely :—

The authority hereby confe

(a) remain in force until—

(i) the area of supply of
extended so as to
limits the said pre
Kumar Mondal
Dasnagar, Howrah
Howrah, or

(ii) a licence is granted
whose area of supp
premises within its
person is in a posit
to the said premise

(iii) any transmission or
for supplying ene
of supply of th
established by or o
Electricity Board,
enabling energy to be
premises without such

(b) be subject to the restri
the third proviso to
before mentioned.

By order
P. M. DAS

No. 2170MP./El.4M-86/61.-
In exercise of the power confe
of the Indian Electricity Act,
the Governor is pleased he
following amendment in this
No. 2064MP./4M-37/61, dated
published at pages 1406-140
"Calcutta Gazette Extraordina
1961, for regulating the s
consumption and use of electr
after referred to as the said or

Amendmen

In schedule II to the said or
after serial (i) and the en
add the following serial
"(m) Bengal Ceramic Ins
Lane, Beleghata, Calc

By order of
P. M. DAS G

No. 2169MP./El.3L-11/61.-
Whereas Shri Gopal Chandra
into an agreement with the
Supply Corporation Limited,
Calcutta and District Co
Licence, 1946 (hereinafter refe
licensees), for taking from th
supply of energy at his prem
Road, Shanpur, Howrah, in the
situated outside the area of
licensees;

And whereas the said premis

licensees to supply energy to
andra Mondal at his premises
Shanpur, Howrah, in the
or domestic purposes and to
lectric supply lines for that
e following conditions and

y conferred shall—
e until—
supply of the said licensees
l so as to include within its
said premises of Shri Gopal
Mondal on Makardah Road,
Howrah, in the district of
r

granted to any other person
a of supply includes the said
ithin its boundaries and such
n a position to supply energy
f premises; or
ssion or distribution system
ng energy outside the area of
the said licensees is
by or on behalf of the State
Board,
rgy to be supplied at the said
hout such authority;
o the restrictions referred to
d proviso to section 27 here-
entioned.

order of the Governor,
DAS GUPTA, Dy. Secy.

l-17/61.—6th June 1961.—
Dhar Roy has entered into an
Calcutta Electric Supply
licensees of the Calcutta and
d. Electric Licence, 1946
to as the said licensees), for
licensees the supply of energy
Makarda Road, Shanpur,
t of Howrah, situated outside
the said licensees;
aid premises are not situated
pply of any other licensee;
in exercise of the power
27 of the Indian Electricity
910), the Governor is pleased
d licensees to supply energy
ti Dhar Roy at his premises
npur, Howrah, in the district
ic and industrial purposes and
electric supply lines for that
he following conditions and

by conferred shall—
ce until—
supply of the said licensees
d so as to include within its
said premises of Shri Sristi
on Makarda

person is in a position to supply energy to the said premises, or

(iii) any transmission or distribution system for supplying energy outside the area of supply of the said licensees is established by or on behalf of the State Electricity Board,

enabling energy to be supplied at the said premises without such authority;

(b) be subject to the restrictions referred to in the third proviso to section 27 hereinbefore mentioned.

By order of the Governor,
P. M. DAS GUPTA, Dy. Secy.

No. 2202MP./El.3L-21/61.—8th June 1961.—Whereas Shri Gouripada Chakravarti has entered into an agreement with the Calcutta Electric Supply Corporation Limited, licensees of the Calcutta and District Consolidated Electric Licence, 1946 (hereinafter referred to as the said licensees) for taking from the said licensees the supply of energy at his premises on Ambica Kundu Bye Lane, Howrah, in the district of Howrah, situated outside the area of supply of the said licensees;

And whereas the said premises are not situated within the area of supply of any other licensee;

Now, therefore, in exercise of the power conferred by section 27 of the Indian Electricity Act, 1910 (IX of 1910), the Governor is pleased to authorise the said licensees to supply energy to the said Shri Gouripada Chakravarti at his premises on Ambica Kundu Bye Lane, Howrah, in the district of Howrah, for domestic purposes and to lay down and place electric supply lines for that purpose subject to the following conditions and restrictions, namely:—

The authority hereby conferred shall—

(a) remain in force until—

(i) the area of supply of the said licensees is extended so as to include within its limits the said premises of Shri Gouripada Chakravarti on Ambica Kundu Bye Lane, Howrah in the district of Howrah, or

(ii) a licence is granted to any other person whose area of supply includes the said premises within its boundaries and such person is in a position to supply energy to the said premises, or

(iii) any transmission or distribution system for supplying energy outside the area of supply of the said licensees is established by or on behalf of the State Electricity Board,

enabling energy to be supplied at the said premises without such authority;

(b) be subject to the restrictions referred to in the third proviso to section 27 hereinbefore mentioned.

By order of the Governor,

into an agreement with the Calcutta Electric Supply Corporation Limited, licensees of the Calcutta and District Consolidated Electric Licence, 1946 (hereinafter referred to as the said licensees), for taking from the said licensees the supply of energy at street lamps to be fixed on the poles on "Z" Road, within the municipal area of Howrah in the district of Howrah, situated outside the area of supply of the said licensees;

And whereas the said road-way is not situated within the area of supply of any other licensee;

Now, therefore, in exercise of the power conferred by section 27 of the Indian Electricity Act, 1910 (IX of 1910), the Governor is pleased to authorise the said licensees to supply energy to the said Howrah Municipality at the said lamps on "Z" Road, within the municipal area of Howrah, in the district of Howrah, for the purpose of street lighting and to lay down and place electric supply lines for that purpose subject to the following conditions and restrictions, namely:—

The authority hereby conferred shall—

(a) remain in force until—

(i) the area of supply of the said licensees is extended so as to include within its limits the said lamps on "Z' Road, within the municipal area of Howrah, in the district of Howrah, or

(ii) a licence is granted to any other person whose area of supply includes in the said roadway within its boundaries and such person is in a position to supply energy to the said lamps, or

(iii) any transmission or distribution system for supplying energy outside the area of supply of the said licensees is established by or on behalf of the State Electricity Board,

enabling energy to be supplied at the said lamps without such authority;

(b) be subject to the restrictions referred to in the third proviso to section 27 hereinbefore mentioned.

By order of the Governor,

P. M. DAS GUPTA, Dy. Secy.

No. 2154MP.—5th June 1961.—Whereas Shri Amrita Lal Bhadra has entered into an agreement with the Calcutta Electric Supply Corporation Limited, licensees of the Calcutta and District Consolidated Electric Licence, 1946 (hereinafter referred to as the said licensees), for taking from the said licensees the supply of energy at his premises on Ichapore Road, Dasnagar, Howrah, in the district of Howrah, situated outside the area of supply of the said licensees;

Act, 1910 (IX of 1910),
to authorise the said licens
the said Shri Amrita Lal B
on Ichapore Road, Dasna
district of Howrah, for do
lay down and place electric
purpose subject to the fol
restrictions, namely:—

The authority hereby con

(a) remain in force unti

(i) the area of suppl
is extended so a
limits the said p
Lall Bhadra
Dasnagar, How
Howrah, or

(ii) a licence is grant
whose area of su
premises within i
person is in a po
to the said premi

(iii) any transmission
for supplying en
of supply of
established by or
Electricity Board

enabling energy to
premises without su

(b) be subject to the
in the third provi
inbefore mentione

By order of

P. M. DAS G

RESOLUT

No. 2455-MP/1C-7/61.—
Governor is pleased to make
ments in this Department
dated the 7th January 1961,
of Part I of the "Calcutta
19th January 1961, as subseq
inafter referred to as
namely:—

Amendm

In the said resolution, in
constituting the Electricity
sory Committee—

(*a*) *for* the entry in seri
the following entry,
"The Chief Electrical E
Adviser to the G
Bengal—Chairman

(*b*) serial No. (7) and
thereto.

Order

ORDERED that the resolutio
"Calcutta Gazette" and cop
to the members of the Comm

By order

nd May 1959.—This is to
Bajoria Finance Private Ltd.,
Floor), Calcutta-1, is approved
ualified to acquire prospecting
lease in respect of all minerals
d natural gas in the State of
the Mineral Concession Rules,

all be valid up to the 31st

M. DAS GUPTA, Dy. Secy.

already granted and which
December 1960 is renewed up
961.

M. DAS GUPTA, Dy. Secy.

th November 1957.—This is to
rs. Goenka Coal Co. (P) Ltd.,
eet, Calcutta-16, is approved as
alified to acquire prospecting
lease in respect of all minerals
nd natural gas in the State of
the Mineral Concession Rules,

all be valid up to the 31st

M. DAS GUPTA, Dy. Secy.

already granted and which
t December 1960 is renewed up
961.

M. DAS GUPTA, Dy. Secy.

23rd May 1960.—This is to
rs. Sankar Coal Company (P.)
Street, 3rd floor, Calcutta-1, is
on who is qualified to acquire
and mining lease in respect of
t petroleum and natural gas in
t Bengal under the Mineral
1960.

shall be valid up to 31st

M. DAS GUPTA, Dy. Secy.

already granted and which
t December 1960 is renewed up
1961.

M. DAS GUPTA, Dy. Secy.

26th May 1959.—This is to
. Krishna Valley Selected Coal
Nandi, district Burdwan, is
son who is qualified to acquire
and mining lease in respect of
t petroleum and natural gas in
t Bengal under the Mineral
1960.

shall be valid up to the 31st

M. DAS GUPTA, Dy. Secy.

already granted and which
t December
1961

approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concesion Rules, 1960.

The certificate shall be valid up to the 31st December 1959.

P. M. DAS GUPTA, Dy. Secy.

This certificate already granted and which expired on the 31st December 1960 is renewed up to 31st December 1961.

P. M. DAS GUPTA, Dy. Secy.

No. 4005MP.—6th September 1960.—This is to certify that Shri Amal Kumar Bhattacharyya, 67 S. N. Banerjee Road, Barrackpore, 24-Parganas, is approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

The certificate shall be valid up to the 31st December 1960.

P. M. DAS GUPTA, Dy. Secy.

This certificate already granted and which expired on the 31st December 1960 is renewed up to 31st December 1961.

P. M. DAS GUPTA, Dy. Secy.

No. 2168MP.—16th June 1959.—This is to certify that Shree Harsukhlal T. Jagani, c/o. East Chaptoria Coal Co. (P.) Ltd., 22 Canning Street, Calcutta, is approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

The certificate shall be valid up to the 31st December 1959.

P. M. DAS GUPTA, Dy. Secy.

This certificate already granted and which expired on the 31st December 1960 is renewed up to 31st December 1961.

P. M. DAS GUPTA, Dy. Secy.

No. 2208MP.—8th June 1961.—This is to certify that Messrs. Shantilal & Bros., Nutanganj, post office and district Bankura, West Bengal, is approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

The certificate shall be valid up to the 31st December 1961.

P. M. DAS GUPTA, Dy. Secy.

No. 2276MP.—13th June 1961.—This is to certify that Messrs. Parshva Properties Limited, 11 Clive Row, Calcutta-1, is approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

The certificate shall be valid up to the 31st
1961

as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

This certificate shall be valid up to 31st December 1961.

P. M. DAS GUPTA, Dy. Secy.

No. 2069MP.—2nd June 1961.—This is to certify that Shri Tara Pada Banerjee, 8 Deodar Street, Calcutta-19, is approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

The certificate shall be valid up to the 31st December 1961.

P. M. DAS GUPTA, Dy. Secy.

No. 2610MP.—7th June 1960.—This is to ertify that Messrs. Babulal Anadilal, post office urulia, district Purulia, is approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

The certificate shall be valid up to the 31st December 1960.

P. M. DAS GUPTA, Dy. Secy.

This certificate already granted and which expired on the 31st December 1960 is renewed up to 31st December 1961.

P. M. DAS GUPTA, Dy. Secy.

No. 71MP.—7th January 1953.—This is to certify that The East Laikdih Colliery Co. Private Ltd., 135 Canning Street, Calcutta-1, is approved as a person who is qualified to acquire prospecting licence and mining lease in respect of all minerals except petroleum and natural gas in the State of West Bengal under the Mineral Concession Rules, 1960.

The certificate shall be valid up to the 31st December 1953.

N. DAS, Secy.

This certificate already granted and which expired on the 31st December 1960 is renewed up to 31st December 1961.

as a person who is qualified to
licence and mining lease in res
except petroleum and natural
West Bengal under the Minera
1960.

The certificate shall be val
December 1958.

P. M. DAS G

This certificate already gr
expired on the 31st December
to 31st December 1961.

P. M. DAS G

No. 1503MP.—13th April
certify that Shri Thakur Prasa
Street, Calcutta-13, is approved
qualified to acquire prospecting
lease in respect of all minera
and natural gas in the State of
the Mineral Concession Rules,

The certificate shall be vali
December 1959.

P. M. DAS G

This certificate already g
expired on the 31st December
to 31st December 1961.

P. M. DAS G

No. 5141MP.—21st November
certify that The East Sathgran
Limited, 135 Canning Stre
approved as a person who is
prospecting licence and mining
all minerals except petroleum
the State of West Bengal u
Concession Rules, 1960.

The certificate shall be vali
December 1959.

P. M. DAS GU

This certificate already gr
expired on the 31st December
to 31st December 1961.

P. M. DAS GU

No. 4306MP.—13th September
certify that Shri Nripendra Na
and post office Churulia, Burdw
a person who is qualified to a
licence and mining lease in resp
except petroleum and natural g
West Bengal under the Mineral

M. DAS GUPTA, Dy. Secy.

already granted and which
st December 1960 is renewed up
1961.

M. DAS GUPTA, Dy. Secy.

4th November 1959.—This is to
Banwarilal Bhalotia, Tilak Road,
ij, district Burdwan, is approved
qualified to acquire prospecting
lease in respect of all minerals
and natural gas in the State of
r the Mineral Concession Rules,

shall be valid up to the 31st

M. DAS GUPTA, Dy. Secy.

already granted and which
st December 1960 is renewed up
1961.

M. DAS GUPTA, Dy. Secy.

26th October 1959.—This is to
New Damagoria Coal Co. Private
Subhas Road, Calcutta-1, is
son who is qualified to acquire
and mining lease in respect of
t petroleum and natural gas in
st Bengal under the Mineral
1960.

shall be valid up to the 31st

M. DAS GUPTA, Dy. Secy.

already granted and which
st December 1960 is renewed up
1961.

M. DAS GUPTA, Dy. Secy.

OTIFICATIONS

5L-12/60.—14th June 1961.—
nerjee, Chief Mining Officer,
nes and Minerals, West Bengal,
ct, in addition to his own duties,
r to the Government of West

By order of the Governor,

A. NIYOGI, Secy.

No. 2273MP./1E-9/60.—13th June 1961.—The Governor is pleased to appoint Shri Sukhamay Acharyya to the temporary post of Mining Officer in the Directorate of Mines and Minerals, West Bengal, with effect from the date he actually joins his post and until further orders.

No. 2278MP./5L-12/60.—14th June 1961.—The Governor was pleased to grant Shri Sankar Lal Chakravarty, Mining Adviser to the Government of West Bengal, earned leave for 31 days with effect from the 16th December 1960 to the 15th January 1961 (both days inclusive) under rule 9 of the Revised Leave Rules, 1933.

This supersedes this Department previous notification No. 5500MP., dated the 14th December 1960.

By order of the Governor,

P. M. DAS GUPTA, Dy. Secy.

LABOUR DEPARTMENT

NOTIFICATIONS

No. 2990L.W.—15th June 1961.—In exercise of the power conferred by clause (j) of subsection (2) of section 7 of the Payment of Wages Act, 1936 (Act IV of 1936), the Governor is pleased hereby to approve Sen and Pandit Industries Employees' Co-operative Credit Society Limited as a co-operative society for payment to which by way of liquidation of loans and interest thereon advanced by the said society to the persons employed in Sen and Pandit Industries Limited at Mercantile Buildings, Lalbazar, Calcutta-1, deduction may be made from the wages of such persons under clause (j) of sub-section (2) of section 7 of the Act, after the said co-operative society has been duly registered under the Bengal Co-opeative Societies Act, 1940 (Bengal Act XXI of 1940).

By order of the Governor,

A. S. NAG, Dy. Secy.

he schedule below, [illegible] specified
in the first schedule to the Industrial Disputes Act,
1947 (XIV of 1947), should be declared as a public
utility service for the purposes of the said Act;

Now, therefore, in exercise of the power conferred by sub-clause (vi) of clause (n) of section 2 of the Industrial Disputes Act, 1947 (XIV of 1947), the Governor is pleased to declare the industry specified in the schedule below to be a public utility service for a period of six months with effect from the 27th June 1961.

Schedule

Express Dairy Company Ltd., 198 Bhupen Roy Road, Behala, Calcutta-34.

By order of the Governor,

S. C. MUKHERJEE, Asst. Secy.

No. 3150-LW/LW/2W-2/61.—27th June 1961.
—In exercise of the power conferred by clause (e) f sub-section (2) of section 7 of the Payment of Vages Act, 1936 (4 of 1936), the Governor is leased hereby to authorise Messrs. Hindustan ables Limited, post office Hindustan Cables, District Burdwan (hereinafter referred to as the mployers) to make deductions at the rate of fifty aye paise from those drawing a salary below upees one hundred and fifty-nine, at the rate of upee one from those drawing a salary between upees one hundred and fifty and two hundred and inety-nine; and at the rate of rupees two from hose drawing a salary above rupees three hundred s per capita monthly subscription from the wages f their employed persons who are members of heir club, for the amenities and services provided y such club by way of indoor and outdoor games, ibrary and reading room, and other recreational nd cultural facilities.

No. 3067-LW/LW/IR-28/60.—21st June 1961.
—In items 3(a)(i) and 3(b)(i) of Form IV appended o the West Bengal Payment of Wages Rules, 958, published at pages 553-554 of Part 1 of the 'Calcutta Gazette'', dated the 23rd February 961, under the Government of West Bengal, Labour Department Notification No. 534-LW, lated the 2nd Feb. 1961, for the words and figures 'Employees earning Rs. 200 per month'' the words and figures "Employees earning less than Rs. 200 per month'' shall be substituted.

By order of the Governor,

A. S. NAG, Dy. Secy.

ment of West Bengal, Labour
No. 2826L.W./LW/1A-66/60,
May 1960, and published in pa
"Calcutta Gazette," dated the
for the words and figures "1st A
read "31st March 1960".

By order o

A. S.

CORRIGENDU
No. 3136L.W./LW/1A-70/60
1961.—In Government of West
Department, order No. 2880L.W
dated the 14th May 1960, p
1827 of the "Calcutta Gazette,"
May 1960, for the words and f
1960" please read "31st March

By order o

A. S.

DEPARTMENT OF FOOD,
SUPPLIES

Food and Supplie

NOTIFICATION

No. 4923FS.—23rd June 1961.
has been pleased to re-employ
B. K. Dutta, a permanent As
Officer of the office of the Senior
ant-General, Posts and Teleg
Government of India, on leave
retirement for the period from 1(
15th October 1961, to act during
as Deputy Controller of Financ
Relief and Supplies (Food and S
ment with effect from the 16th

No. 4922FS.—23rd June 1961.
was pleased to replace the servic
Dutta, a permanent Assistant A
the office of the Senior Deputy Ac
Posts and Telegraphs, Calcutta,
deputation as Deputy Controller
Food, Relief and Supplies (Food
Department at the disposal of
General, Posts and Telegraphs,
India, in the afternoon of 15th J

By order of

B. C. MUKHE

Land Acquisition

NOTIFICATIONS

—No. 9836L.A.—19th June 1961.—
is pleased to cancel the notification
dated the 2nd February 1956, under
e Land Acquisition Act, I of 1894,
age 579, Part I of the "Calcutta
e 23rd idem, in respect of the pro-
on of 0.083 of an acre of land
establishment of Barisha post office
of Sarkelat, jurisdiction list No. 14,
ehala, district 24-Parganas.

By order of the Governor,
B. CHAKRABARTI, Dy. Secy.

.—21st June 1961.—The Governor
ppoint Shri Pratul Chandra Datta,
istrate and Deputy Collector,
to act, until further orders, as
ty Collector, Calcutta, with effect
June 1961, or any date thereafter
ay take over charge.

— No. 10068L.A. — 23rd June
vernor is pleased to reappoint Shri
ab De, retired Deputy Magistrate
ollector, to be a Deputy Magistrate
ollector for a period of one year
of joining.

— No. 10069L.A. — 23rd June
vernor is pleased to appoint Shri
ab De, Deputy Magistrate and
or (re-employed) as Land Acquisi-
-Parganas, Alipore, vice Shri Salil
Sub-Deputy Magistrate and Sub-
or, under orders of transfer.

By order of the Governor,
H. L. CHAKRAVARTI, Dy. Secy.

— No. 10071L.A. — 23rd June
s the functions of the Central
der the Land Acquisition Act, 1894
relation to the acquisition of land
s of the Union, have been entrusted
vernment by notification No. 20/1/
ted the 14th May 1955, issued by
t of India, in the Ministry of Home
clause (1) of article 258 of the
India, published as S.R.O. 1074
art II, section 3 of the "Gazette of
the 21st May 1955;

re, in exercise of the powers con-
se (c) of section 3 of the said Act,
said notification, the Governor is
point Shri Chandra Madhab De,
istrate and Deputy Collector
and Addtional Land Acquisition
rganas, Alipore, to perform in
area comprised within the district
s except (i) the area comprised
as defined in the Calcutta Munici-
and (ii) any other area or areas to
cutta Improvement Act, 1911, has
reafter be extended by notification

By order of the Govern
H. L. CHAKRABARTI, Dy. Secy.

24-Parganas. — No. 10072L.A. — 23rd Ju
1961.—In exercise of the powers conferred b
clause (c) of section 3 of the Land Acquisitio
Act, 1894 (I of 1894), the Governor is pleased t
appoint Shri Chandra Madhab De, Deput
Magistrate and Deputy Collector (re-employed
and Additional Land Acquisition Officer
24-Parganas, Alipore, to perform in respect o
the area comprised within the district o
24-Parganas, except (i) the area comprised withi
Calcutta as defined in the Calcutta Municipa
Act, 1951, and (ii) any other area or areas to
which the Calcutta Improvement Act, 1911, ha
been or may hereafter be extended by notificatio
under section 1, sub-section (3) thereof, th
functions of a Collector under the said Act, i
relation to the acquisition of land for public pur
poses (except the purposes of the Union) and fo
Companies.

By order of the Governor,
H. L. CHAKRABARTI, Dy. Secy.

24-Parganas. — No. 10073L.A. — 23rd Ju
1961.—In exercise of the power conferred
clause (a) of section 2 of the West Bengal La
(Requisition and Acquisition) Act, 1948 (We
Bengal Act II of 1948), the Governor is pleased
to specially appoint Shri Chandra Madhab De
Deputy Magistrate and Deputy Collecto
(re-employed) and Additional Land Acquisitio
Officer, 24-Parganas, to perform the functions
a Collector under the said Act, in respect of th
area comprised within the district of 24-Pargan
except (i) the area comprised within Calcutta
defined in the Calcutta Municipal Act, 1951, an
(ii) any other area or areas to which the Calcutt
Improvement Act, 1911, has been or may here
after be extended by notification under section
sub-section (3) thereof.

By order of the Governor,
H. L. CHAKRAVARTI, Dy. Sec

Midnapore.—No. 9320L.A.—14th June 1961.
The Governor is pleased to cancel so much of th
notification No. 9614L.A., dated the 6th Ju
1952, under section 4 of the Land Acquisitio
Act I of 1894, published at page 1831, Part I o
the "Calcutta Gazette" of the 12th June 1952, a
relates to pieces of land measuring, more or les
6.59 acres, and comprising cadastral survey pl
Nos. 1497, 1498, 1499, and 1500 and parts
cadastral survey plot Nos. 1485, 1486, 14
1490, 1492, 1493, 1496, 1501, 1502, 1
and 1684 of mauza Barkola, jurisdiction
No. 199, police-station Kharagpur, out of
total area of 10.59 acres of land notified f
acquisition for augmentation of water-supply
the Eastern Railway at Kharagpur in the villag
of Keshpal and Barkola, police-station Kharagpu
district Midnapore.

By order of the Governor,
B. CHAKRABARTI, Dy. Se

acres, covered by declaration 308L.A., dated the 7th January 1957, under on 6 of the Land Acquisition Act I of 1894, lished at page 291, Part I of the "Calcutta ette" of the 24th January 1957, for afforestain the villages of Kusul and Maliara, jurision list Nos. 45 and 47, respectively, policeon Ausgram, pargana Gopbhum, district dwan.

By order of the Governor,

B. CHAKRABARTI, Dy. Secy.

ooghly.—No. 10206L.A.—26th June 1961.—Governor is pleased to cancel so much of the ication No. 17436L.A., dated the 1st Septem-1959, under section 4 of the Land Acquisition I of 1894, published at page 3300, Part I of "Calcutta Gazette" of the 10th September , as relates to a piece of land measuring, or less, 0.035 of an acre, comprising cadastral ey plot No. 3416 in village Gourhati-Champout of the total area of 7.599 acres of land ied for acquisition for the establishment of erculosis Hospital in the village of Gourhatinpdani, jurisdiction list No. 21, police-station dreswar, district Hooghly.

By order of the Governor,

B. CHAKRABARTI, Dy. Secy.

lcutta.—No. 10208L.A.—26th June 1961.—reas it appears to the Governor that land is y to be needed for a public purpose, not being rpose of the Union, namely, for widening a on of Mansatala Lane in ward No. 74 of the utta Municipality in the city of Calcutta, it ereby notified that a piece of land comprising ons of premises Nos. 7/1 and 7/2, Mansatala and measuring, more or less, 0.0134 of an and bounded on the—

orth, west and south—By Mansatala Lane;

ast—By the remaining portions of premises Nos. 7/1 and 7/2, Mansatala Lane:

kely to be needed for the aforesaid public ose at the expense of the Corporation of utta within the aforesaid ward No. 74 of the utta Municipality, in the city of Calcutta;

is notification is made under the provisions of on 4 of Act I of 1894, to all whom it may ern.

plan of the land may be inspected in the of the Second Land Acquisition Collector, utta, at No. 5, Bankshall Street, Calcutta.

exercise of the powers conferred by the aforesection, the Governor is pleased to authorise Officers for the time being engaged in the rtaking, with their servants and workmen, to upon and survey the land and do all other required or permitted by that section

notice of the substance of this noti in the locality, file an objection in the Second Land Acquisition Colle at No. 5, Bankshall Street, Calcut

By order of

B. CHAKRABAR

Calcutta.—No. 10210L.A.—26th Whereas it appears to the Governo likely to be needed for a public pur a purpose of the Union, namely, Kalighat Road from its junction wit Banerjee Road to the junction of and Kali Temple Road in ward Calcutta Municipality in the city is hereby notified that a piece of la premises Nos. 235, 237, 239, 241, and 249, Kalighat Road and two co in between premises Nos. 243 and 24 249, Kalighat Road and measuring, 0.0362 of an acre and bounded on th

North, east, south and west Road is likely to be needed fo public purpose at the expense of t of Calcutta within the aforesaid w the Calcutta Municipality, in the cit

This notification is made under th section 4 of Act I of 1894, to all concern.

A plan of the land may be ins office of the Second Land Acquisit Calcutta, at No. 5, Bankshall Street

In exercise of the powers conferred said section, the Governor is please the Officers for the time being e undertaking, with their servants an enter upon and survey the land an acts required or permitted by that s

Any person interested in the abo has any objection to the acquisition within thirty days after the date on notice of the substance of this notifi in the locality, file an objection in the Second Land Acquisition Colle at No. 5, Bankshall Street, Calcutt

By order of

B. CHAKRABART

Calcutta.—No. 10212L.A.—26th Whereas it appears to the Governor likely to be needed for a public purp a purpose of the Union, namely, fo the Corporation alignment of 40 public road in ward No. 72 of the C cipality in the city of Calcutta, it i fied that a piece of land comprisin

1961, appointing Shri Arun Kumar Sen, B.A., son of Shri Sailesh Chandra Sen, temporarily to the West Bengal Junior Commercial Taxes Service.

By order of the Governor.

A. M. KUSHARI, Jt. Secy.

No. 1779F.T./1L-16/61S.B.—27th June 1961.—The Governor was pleased to allow Shri Dibakar Maity, Statistician, State Statistical Bureau, West Bengal, earned leave for seven days from the 19th May 1961 under rule 167(a)(i) of the West Bengal Service Rules, Part I.

By order of the Governor.

S. K. MODAK, Asst. Secy.

EXCISE DIRECTORATE

NOTIFICATION

No. 11Exc.—16th June 1961.—Shri Amarendra Prasad Roy, probationary Inspector of Excise, Calcutta, was granted earned leave for fifteen days under rule 167(a) of the West Bengal Service Rules, Part I, with effect from the 10th May 1961.

A. BOSE, Commissioner.

DIRECTORATE OF COMMERCIAL TAXES WEST BENGAL

NOTIFICATION

No. 11229C.T.—21st June 1961.—Shri Hazari Lal Gupta, Commercial Tax Officer, Grade I, of Bhawanipore Charge, was granted earned leave for 27 days from 24th April 1961 to 20th May 1961 under rule 167(a)(i) of the West Bengal Service Rules, Part I.

S. K. GHOSE, Commissioner.

DEPARTMENT OF HEALTH

Public Health

NOTIFICATIONS

No. P.H./3698/Admn./Medl./Estt./I.A./160-61.—17th June 1961.—The Governor was pleased to grant Dr. Anil Chandra Pan of the West Bengal Health Service, now employed as the Assistant Chief Medical Officer of Health, Jalpaiguri, earned leave for the period from 4th April 1961 to 6th May 1961 under rule 167(a) of the West Bengal Service Rules, Part I.

By order of the Governor,

S. K. MOOKERJEE, Asst. Secy.

No. P.H./3770/1M-35/61.—22nd June 1961.—The Governor is pleased to extend the term of contract appointment of Dr. Promode Kumar Sanyal, Ph.C. (Banaras), Ph.D. (Lond.), to the post of Public Analyst for Drugs, West Bengal Public Health Laboratories, for a further period from 23rd June 1961, until further orders.

By order of the Governor,

A. N. SEN, Dy. Secy.

NOTIFICA

No. 81.—22nd May 196
pleased to place, in the int
the services of the unde
Assistant Engineers at the
ment (Roads) Department
until further orders, for app
Assistant Engineers under

(1) Shri Sunil Krishna
(2) Shri Anil Kumar Ro
(3) Shri Anil Baran Dut
(4) Shri Santanu Sengu
(5) Shri Anil Kumar Gh
(6) Shri Jayanta Kishor
(7) Shri Sankar Kumar
(8) Shri Timir Baran Ba
(9) Shri Tapas Kumar G

No. 82.—22nd May 196
pleased to place, in the inte
the services of the under
Assistant Engineers of this
disposal of the Community D
sion Service Department of
appointment as temporary
under that Department, until

(1) Shri Satya Narayan
(2) Shri Navaranjan Sen

No. 92.—17th June 1961
pleased to cancel this De
No. 117, dated the 19th
as it relates to the appoi
Kumar Basu, B.E., son of
Bose, as a temporary Assi
this Department.

By orde

D. N. BA

IRRIGATION AND DEPARTME

NOTIFICAT

No. 8-I.—17th June 1961.
power conferred by clause (
Bengal Development Act, 19
of 1935), the Governor is ple
(a) Shri Sayed Habibullah,
Mayurakshi Revenue Division
Narendra Nath Das, Zilladar
Revenue Division No. I, each
period up to the 18th April
the date of this notification
Collector under sections 13,
of the said Act within the
the boundaries specified in

(a) notification No. 9-I,
1954, published at
Part I of the "Calc
19th August 1954,

ourts) Act, 1949 (West
9), the Governor is pleased
dia Special Court, consti-
o. 4632J., dated the 22nd
tion 2 of the said Act, the
an offence specified in the
t, to be tried by the said

Case

mal Kumar Hazra, peon of
fice (under suspension), son
r Hazra, village Gobrapur,
district 24-Parganas, for
n 409, I.P.C.

une 1961.—In exercise of
by sub-section (2) of sec-
t Bengal Criminal Law
Courts) Act, 1949 (West
49), the Governor is pleased
adia Special Court, consti-
No. 4632J., dated the 22nd
ction 2 of the said Act, the
g an offence specified in the
ct, to be tried by the said

Case

rmal Kumar Hazra, peon of
ffice (under suspension), son
ar Hazra, village Gobrapur,
district 24-Parganas, for
n 409, I.P.C.

une 1961.—In exercise of the
b-section (2) of section 4 of
riminal Law Amendment
1949 (West Bengal Act XXI
r is pleased to distribute to
Courts, constituted by noti-
ated the 22nd August 1952,
said Act, the following case
cified in the schedule to the
y the said Special Court:—

Case

Manik Lal Chakrabarty,
chak, police-station Egra,
son of Shri Debendra
lpur, police-station Panskura,
r offences under section 409,
tion 5(2) of Act II of 1947.

By order of the Governor,

B. BASAK, Dy. Secy.

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egistration

IFICATIONS

rd June 1961.—The Governor
ppoint Shri Tarak Nath
of late Akshay Kumar
a temporary Sub-Registrar,
date on which he joins his

Sub-Registrars, with effect from the
below:—

Name of the officers and date of substantive appointment.

(1) Shri Sachindra Nath Roy—1st May 1958.

(2) Shri Rajendra Kumar Das— 20th August 1958.

By order of the Governor,

B. BASAK, Dy. Secy.

No. 508Regn.—23rd June 1961.—The Governor is pleased to appoint Shri Tarak Nath Bhattacharyya, who has been appointed as a temporary Sub-Registrar in this department notification No. 507Regn., dated the 23rd June 1961, to act as Sub-Registrar of 24-Parganas, to be ordinarily stationed at the headquarters of the district of the 24-Parganas.

By order of the Governor,

B. BASAK, Dy. Secy.

FINANCE DEPARTMENT

Taxation

NOTIFICATIONS

No. 1703F.T./1L-15/61(S.B.).—16th June 1961.—The Governor was pleased to allow Shri Gouranga Sundar Mahanty, Assistant Statistician, State Statistical Bureau, West Bengal, earned leave for six days from the 9th May 1961 and in continuation extraordinary leave for two days under rules 168(i) and 174(a)(ii), respectively, of the West Bengal Service Rules, Part I.

By order of the Governor,

S. K. MODAK, Asst. Secy.

No. 1757F.T./1E-37/61S.T.—23rd June 1961.—The Governor is pleased to retain Shri Sudhindra Nath Sarkar, Commercial Tax Officer, Grade I, in the temporary post of Public Relations Officer, in the Commercial Tax Directorate up to 28th February 1962.

By order of the Governor,

A. M. KUSHARI, Jt. Secy.

No. 1778F.T./FT/1L-13/61-S.B. — 26th June 1961.—The Governor was pleased to allow Shri Prabhat Ranjan Ray, Statistician, State Statistical Bureau, West Bengal, earned leave for 106 days from the 26th May 1961, under rule 166 of the West Bengal Service Rules, Part I.

By order of the Governor,

S. K. MODAK, Asst. Secy.

is pleased to appoint Lt.-General D. N. Chakravarti to act as Secretary of the Calcutta Metropolitan Planning Organisation, established under Department of Health resolution No. Medl./4259/11M-4/61, dated the 12th May 1961. He will also act as ex-officio Secretary to Government in the Development Department in all matters relating to the Calcutta Metropolitan Planning Organisation.

No. 4485/1E-18/60.—22nd June 1961.—In exercise of the power conferred by section 35 of the West Bengal Development Corporation Act, 1954 (West Bengal Act XIV of 1955), the Governor is pleased to make the following amendment in the West Bengal Development Corporation Rules, 1956, published with the Development Department Notification No. 6992/2A-23/55, dated the 9th August 1956, at pages 3225-3234 of Part I of the "Calcutta Gazette", dated the 23rd August 1956, as subsequently amended (hereinafter referred to as the said rules), namely:—

Amendment

In sub-rule (2) of rule 8 of the said rules, for the words "or the Chief Account Officer", insert the words ", and may, on the recommendation of the West Bengal Development Corporation and if it thinks fit, appoint a retired Government Officer, or any other person after inviting applications, as the Chief Accounts Officer,".

By order of the Governor,

H. BANERJEE,

Development Commissioner and
Secy. (ex officio).

No. 106/7E-32/60.—6th January 1961.—The Governor was pleased to appoint Shri S. M. Goswami, temporary Superintending Engineer, Planning Circle, Construction Board, to act temporarily, in addition to his own duties, in the post of Superintending Engineer, Relief Circle, Construction Board, with effect from the 1st December 1960 forenoon and until further orders.

His headquarters will be at Calcutta.

By order of the Governor,

H. C. DATTA, Dy. Secy.

No. 4223/2C-29/59.—14th June 1961.—In exercise of the power conferred by section 16 of the West Bengal Development Corporation Act, 1954 (West Bengal Act XIV of 1955), the Governor is pleased hereby to make the following amendment to this department notification No. 7720/2C-29/59, dated the 26th October 1959, published at page 3892 of Part I of the "Calcutta Gazette" of the 12th November 1959 (hereinafter referred to as the said notification, namely:—

Amendment

In the said notification, for the words "local areas of municipalities constituted under the Bengal Municipal Act, 1932 (Bengal Act XV of 1932), excluding Howrah", substitute the words "whole of West Bengal excluding Calcutta as defined in the Calcutta Municipal

to act temporarily in the post of
Educational Unit under the
with effect from the date of
and until further orders, vice
Roy, transferred.

His headquarters will be in C

No. 4186/7E-12/59.—13th
Governor is pleased to direct
Roy, Assistant Engineer, Edu
truction Board, to act in the
Assistant Engineer under
Planning Division of the Cons
effect from the date he takes ov
further orders.

His headquarters will be in C

No. 4224/7E-13/61.—22nd
Governor has been pleased to
Bhadra, temporary Assistant E
Subdivision I, under the Cons
act temporarily in the post of A
Industrial Estate Subdivision
Division, Construction Board, w
date he takes over charge and u

His headquarters will be at B

No. 4225/7E-13/61.—22nd
Governor is pleased to direct Sh
temporary Assistant Engineer
division III under the Constru
temporarily in addition to his
post of Assistant Engineer, Hari
I under the Construction Board
the date he takes over charge
orders, vice Shri Partha Bhadr

No. 10159/11E-53/58.—29th
The Governor is pleased to appoi
Guha, son of Shri Haridas Guh
the date of his joining and unt
the temporary post of Techn
Superintending Engineer,
Construction Board.

His headquarters will be at C

No. 10160/11E-53/58.—29th
The Governor is pleased
Bimalananda Maity, son of Sh
Maity, with effect from the date
until further orders, to the temp
ant Engineer, Burdwan Univ
No. III, under the Burdwan Un
the Construction Board.

His headquarters will be at B

By order

nd addresses of each consignor
onsignee, the packages of
other than foodgrains received
ach consignor and the number
ate of challan given to the
nor under sub-rule (3) of
67A, the nature and weight
ch goods contained in each
ment, the total weight of
oods carried in the transport
the freight leviable in
of each consignor or consig-
d the name and address of the
if any, in whose favour a
under rule 109A has been
and, through whom the goods
signed.''; and

ule (a), insert the following
namely:—

tanding anything contained
le (a) a permit-holder of every
vehicle shall furnish to the
ransport Authority or the
Transport Authority by which
it has been issued, as the case
fortnightly return in duplicate
the movement of the commo-
the vehicle, and containing the
particulars, namely:—

the permit has been granted
tate Transport Authority or
al Transport Authority;
nd address of the permit-holder;
number;
tion number of the vehicle;
number and date;
commencement of movement;
f the place and the district of
ch;
f the place and the district of
ation;
nd address of the consignor;
nd address of the consignee;
f commodities;
y despatched in metric tons
ilograms;
which the movement is com-
; and
s, if any,

modities referred to in this
ule comprise of rice in husk, rice
husk, jowar, bajra, maise,
other millets, wheat flour,
gram and gram products,
other than gram and gram
cts.

eipt of the return referred to in
(aa) the Transport Authority
orward a copy thereof to the
ment of Food, Relief and Sup-
Government of West Bengal.''

By order of the Governor,

Development

RESOLUTION

No. 4478Dev.—21st June 1961.—In continuation and elucidation of Health Department resolution No. Medl./4259/11M-4/61, dated the 12th May 1961, authorising the establishment of an agency known as the "Calcutta Metropolitan Planning Organisation" the Governor is pleased to lay down the following principles in accordance with which the said organisation shall act:—

(1) The organisation will be a separate unit functioning in the Development Department.

(2) The Secretary of the organisation shall be ex-officio Secretary to the Government in the Development Department and shall, subject to the orders of the Minister-in-Charge, exercise the powers vested in the organisation and shall be its corresponding agent.

(3) Subject to adequate budget provision, the powers and duties of the organisation shall be subject to the following conditions:—

(i) Undertaking of works of a capital nature including purchase of assets which involve capital expenditure exceeding rupees one lakh shall be referred to the State Government for approval before authorisation.

(ii) No post carrying pay exceeding Rs. 1,200 per month or a scale of pay of which the maximum is above Rs. 1,500 per month shall be created without the previous approval of the State Government.

(iii) Sanction of write-off of irrecoverable value of stores or money lost by theft, fraud or negligence, irrecoverable losses and advances or sanction of remission of and abandonment of claims involving a sum exceeding Rs. 5,000 will be referred to the State Government for approval before authorisation.

(iv) Receipt of funds from sources other than Government will pass through Government accounts.

(4) A cash imprest account not exceeding Rs. 20,000 will be opened and operated through the Reserve Bank of India by the Secretary of the Calcutta Metropolitan Planning Organisation.

Order

Ordered that the resolution be published in the "Calcutta Gazette".

By order of the Governor,

H. BANERJEE,

Development Commissioner an

Assistant Engineer, from the office of the Executive Engineer, Survey Division No. I of the Road Planning Circle and to post him to the charge of Malda Construction Subdivision No. I of the Malda Construction Division with effect from the date of his joining and until further orders.

No. 56-D/E.—15th June 1961.—The Governor is pleased to appoint Shri Sunil Krishna Chaudhuri as temporary Assistant Engineer under the Development (Roads) Department for a period of three months on deputation from the Public Works Department and to post him to the office of the Executive Engineer, Design Division, No. II, under the Road Planning Circle with effect from the date of his joining and until further orders.

No. 57-D/E.—15th June 1961.—The Governor is pleased to appoint Shri Anil Kumar Roy as temporary Assistant Engineer under the Development (Roads) Department, for a period of three months on deputation from the Public Works Department and to post him to the office of the Executive Engineer, Design Division III, under the Road Planning Circle with effect from the date of his joining and until further orders.

No. 58-D/E.—15th June 1961.—The Governor is pleased to appoint Shri Anil Baran Dutta as temporary Assistant Engineer under the Development (Roads) Department for a period of three months on deputation from the Public Works Department and to post him to the office of the Executive Engineer, Survey Division I, under the Road Planning Circle with effect from the date of his joining and until further orders.

No. 59-D/E.—15th June 1961.—The Governor is pleased to appoint Shri Santanu Sen Gupta as temporary Assistant Engineer under the Development (Roads) Department for a period of three months on deputation from the Public Works Department and to post him to the office of the Executive Engineer, Survey Division II, under the Road Planning Circle with effect from the date of his joining and until further orders.

No. 60-D/E.—15th June 1961.—The Governor is pleased to appoint Shri Anil Kumar Ghosh as temporary Assistant Engineer under the Development (Roads) Department for a period of three months on deputation from the Public Works Department and to post him to the office of the Executive Engineer, Survey Division III, under the Road Planning Circle with effect from the date of his joining and until further orders.

No. 62-D/E.—15th June 1961.—The Governor is pleased to appoint Shri Sankar Kumar Das as temporary Assistant Engineer under the Development (Roads) Department for a period of three months on deputation from the Public Works

2. This cancels the
Department notification No.
March 1961.

No. 63-D/E.—15th June
is pleased to appoint Shri
temporary Assistant Engine
ment (Roads) Department
months on deputation from
Department and to post him
Executive Engineer, Survey
the Road Planning Circle w
of his joining and until fur

No. 64-D/E.—15th June
is pleased to appoint Shri
temporary Assistant Engin
ment (Roads) Department
months on deputation from
Department and to post h
Executive Engineer, Design
Road Planning Circle with
his joining and until furth

By ord

B. MU

LAW (JUDICIAL)

No. 272

Power

No. 2639GA/2P-66/61.—
exercise of the powers co
(1) of section 164 of t
Procedure, 1898 (Act V
is pleased to empower
Deputy Magistrate and M
class, Burdwan, to record
sion made to him in the co
under chapter XIV of th
time afterwards before
enquiry or trial.

By o

N. K. SE

Judici

Appointments

No. 4203J.—23rd June
pleased to appoint Shri Ch
Magistrate and Deputy
Alipore, 24-Parganas,
Magistrate, Calcutta.

By

DER

Genl.)194/60.—26th June

Roy, Executive Engineer,

ibution, Durgapur Project,

to Durgapur with imme-

rest of public service.

of the Durgapur Industries Board,

P. GHOSH, Dy. Secy.

gapur Industries Board.

ICATIONS

r.)85/60.—23rd June 1961.

arman, Assistant Accounts

to retirement, is re-

ratory Industries Board as

pur Durgapur Project,

Officer, 9th June 1961 (after-

from

orders.

er.)108/60.—21st June 1961.

Roy is appointed by Durga-

Assistant Engineer (Engi-

al Power Station of Durga-

apur with effect from 26th

until further orders.

(Genl.)194/60.—26th June

Assistant Divisional Engi-

State Electricity Board, is

ion as Executive Engineer,

ribution, Durgapur Project,

from 16th June 1961 (fore-

orders.

Durgapur Industries Board,

P. GHOSH, Dy. Secy.

gapur Industries Board.

Industries Board

OLUTION

23rd June 1961.—In conti-

ment Department (Durgapur

lution No. 110(70)/3C-2/60,

h 1961, the Governor is

term of office of the Board,

f Finance (Budget) Depart-

18134F.B., dated the

for the development and

stries in Durgapur area for

1st August 1961 with its

ioned below:—

er, Bar-at-Law, Chairman;

ctor, Jadavpur University,

, Director, Central Fuel

itute, Dhanbad (Bihar)—

jumder, Special Officer and

and Industries Department—Member;

(6) Shri A. K. Bhaumik, Chief Electrical Engineer, Electrical Adviser to the Government of West Bengal—Member;

(7) Shri A. B. Ganguli, I.C.S., Administrator, Durgapur Project and ex-officio Secretary, Development Department, Government of West Bengal—Member-Secretary.

Order

Ordered that the resolution be published in the "Calcutta Gazette" and copies thereof forwarded to the Chairman and Members of the Board.

Ordered also that a copy of the resolution be forwarded to the Accountant-General, West Bengal, and all Departments of Government for information.

By order of the Governor,
H. BANERJEE,
Development Commissioner and
Secy. (ex officio).

DEVELOPMENT (ROADS) DEPARTMENT

Establishment

NOTIFICATIONS

No. 50/D/E.—27th May 1961.—The Governor is pleased, in the interest of public service, to post Shri Kamakshya Nath Basu, officiating Superintending Engineer, on his return from leave, to the charge of the Road Construction Circle No. II with effect from the 24th May 1961 and until further orders, vice Shri S. Pal, officiating Superintending Engineer, Road Construction Circle No. II, proceeding on earned leave from that date.

By order of the Governor,
H. BANERJEE,
Development Commissioner and Secy.
(ex officio).

No. 51-D/E.—1st June 1961.—The Governor is pleased, in the interest of public service, to transfer Shri J. N. Roy Chowdhury, temporary Assistant Engineer, from the Siliguri Construction Subdivision of the Darjeeling Construction Division and to post him to the charge of the Ranaghat Construction Subdivision of the Nadia Construction Division with effect from the date of his joining and until further orders.

2. This cancels the orders issued in this Department notification No. 12-D/E, dated the 6th January 1961.

No. 52-D/E.—1st June 1961.—The Governor is pleased, in the interest of public service, to transfer Shri Dilip Ranjan Guha, Assistant Engineer, from the Malda Construction Subdivision No. I of the Malda Construction Division and to post him to the charge of Siliguri Construction Subdivision of the Darjeeling Construction Division with effect

Barman confirmed in the appointment on the same date to fill a permanent post of Inspector at Detective Training School, Barrackpore, sanctioned under Government order No. 1116Pl., dated 22-3-1955.

Shri Acharji will continue to be physically attached to Howrah while being posted on paper to Detective Training School, Barrackpore.

This is in partial modification of orders issued under notification No. 1270A, dated 16-2-1960.

H. S. GHOSE CHAUDHURI, Inspr.-Genl.

OFFICE OF THE COMMISSIONER OF POLICE, CALCUTTA

NOTIFICATION

Dated the 20th June 1961.

Whereas, after receiving report from the Traffic Department, Calcutta, I am satisfied that it is necessary to restrict movements of lorries to improve traffic flow and to reduce accident risks in the interest of public convenience and safety in the roads specified below, in exercise of the powers conferred on me under section 74 and section 75 of the Indian Motor Vehicles Act (Act IV of 1939), read with Home (Transport) Department's order No. 2383W.T., dated the 9th April 1957, I hereby direct that henceforward—

(i) No goods vehicle shall enter or infiltrate into the area bounded by Tollygunge Circular Road, Nalini Ranjan Avenue and Chetla Road;

(ii) All such vehicles requiring to pass along Tollygunge Circular Road shall pass only by following one-way direction, viz., from east to west direction;

(iii) All such vehicles requiring to pass along Nalini Ranjan Avenue from its junction with Durgapur Island up to its junction with Chetla Road shall pass only by following one-way direction, viz., from west to east direction;

(iv) All such vehicles requiring to pass along Chetla Road from its junction with Tollygunge Circular Road, shall pass only by following one-way direction, viz., from north to south direction;

(v) That aforesaid arrangements shall be continuing to be operated, daily, during 24 hours;

(vi) That Traffic Department of Calcutta Police shall fix necessary signboards at suitable places, upon abovenamed roads, for cautioning and guiding public about these arrangements.

U. MUKHARJI, Commissioner.

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circulation of traffic on Zeer
Road due to insufficient wi
over the bridge and at the b
and, it is necessary to rest
goods vehicles on Zeerut Bri
from 9 a.m. to 11 a.m. and
7 p.m. on all days in the
public convenience and safe
powers conferred by section
Indian Motor Vehicles A
1939), read with the Govern
Home (Transport) Departme
W.T., dated the 9th April
that the motor vehicles
shall be restricted to use th
column II below:

Column

1. Goods vehicles loaded or

Column

Belvedere Road from the junc
Road up to the junction
then Alipore Road up
Judges' Court Road betw
9 a.m. and 11 a.m. and
all days.

U. MUKH

Transpo

NOTIFICAT

No. 4586W.T.—20th June
ing draft of amendments wh
the power conferred by sub-
particular, by clause (a) of
section 68 of the Motor Vehi
IV of 1939), the Governor p
the Bengal Motor Vehicles R
with notification No. 1930-Pl
September 1940, at pages 265
the "Calcutta Gazette" of the
as subsequently amended (her
as to the said rules), is hereby
ed by sub-section (1) of secti
Act, for the information of p
affected thereby.

2. The draft will be taken
on or after the 15th July 1961
or suggestion with respect the
received by the undersigned
shall be considered.

Draft Amendm

In rule 102 of the said rule
(1) In sub-rule (a)—
(i) after the words "
vehicle to" insert
State Transport A

এ নং প্রজ্ঞা
ত্রিশ দিনের অর্জিত ছুটি মঞ্জুর করা

61.—26th June 1961.—The
to allow Shri Manindra
ub-Deputy Magistrate and
Midnapore, earned leave
effect from the 10th May
a)(i) of the West Bengal
1. in extension of the leave
him under this department's
GA, dated the 10th June

৬১।—২৭এ জুন ১৯৬১।—জলপাইগুড়ি
ও সমাহর্তা শ্রীঅজিতকুমার ব্যানার্জিকে
(১ম খণ্ড) ১৬৭(ক)(১) সংখ্যক নিয়মানু-
হইতে ২২এ এপ্রিল ১৯৬১ তারিখ
মঞ্জুর করা হইল।

/61.—27th June 1961.—The
to allow Shri Ajit Kumar
Deputy Magistrate and
lpaiguri, earned leave for six
April 1961 to the 22nd April
(a)(i) of the West Bengal
1.

৬১।—২৮এ জুন ১৯৬১।—১৯৫৫ সালের
বলীর ১১(১) নিয়মানুসারে ডায়মন্ড-
ভি সেনয়, আই এ এস-কে ইংরেজি ২২এ
দিনের অর্জিত ছুটি মঞ্জুর করা হইল।

/61.—28th June 1961.—The
to allow Shri P. V. Shenoi,
Officer, Diamond Harbour,
period from the 22nd May
ne 1961 under rule 11(1) of
Leave) Rules, 1955.

১।—২৯এ জুন ১৯৬১।—মুর্শিদাবাদ জেলার
বিশ্বাসকে পশ্চিমবঙ্গ কৃত্যক নিয়মাবলীর
নিয়মানুসারে ২৯এ মে ১৯৬১ তারিখ
পর্যন্ত চৌত্রিশ দিনের অর্জিত ছুটি

/61.—29th June 1961.—The
to allow Shri Dinabandhu
istrate and Deputy Collector,
leave for thirty four days
1961 to the 1st July 1961 under
West Bengal Service Rules,

By order of the Governor,
SEN GUPTA, Under Secy.

Police

12/61.—22nd June 1961.—The
sed to allow Shri Suresh
ti, Inspector of Police, West
bility leave for the period
h 1958 to the 19th April 1958
of the West Bengal Service

By order of the Governor,
SEN GUPTA, Under Secy.

Magistrate and Deputy Collector, now employed as Subdivisional Officer, Kalimpong, Darjeeling, having passed the Second Examination in Tibetan Language held on the 7th June 1960 in accordance with the rules for encouragement of the study of Tribal Languages as laid down in the Services (Training and Examination) Rules, is authorised to draw a reward of Rs. 1,000 (Rupees one thousand) only.

By order of the Governor,
R. GUPTA, Chief Secy.

Defence

NOTIFICATION

No. 867HD/10A-4/61.—29th June 1961.—The Governor is pleased to appoint Shri Anadi Bhusan Mukerjea, Deputy Magistrate and Deputy Collector, now employed as Assistant Secretary, Home (Defence and Press) Department, to act until further orders with effect from the 29th June 1961 (forenoon), in addition to his own duties, as Assistant Secretary, State Soldiers', Sailors' and Airmen's Board, West Bengal, and Assistant Secretary, Services Post-War Reconstruction Trust Fund Committee, West Bengal.

By order of the Governor,
S. N. ROY, Dy. Secy.
and State Defence Co-ordination Officer.

Police

NOTIFICATION

No. 2707Pl/P31P-1/60(Pt).—27th June 1961.—The Governor is pleased to appoint Shri Bibhuti Bhusan Chakraborty, a temporary Police Prosecutor of Calcutta, to a permanent post of Police Prosecutor, Calcutta, on probation.

2. He will be on probation for a period of two years with effect from the date of his joining the service. His confirmation will depend on his exhibiting fitness for the service, and he will be liable to be discharged from service during or at the end of the period of probation if he is considered to be unsuitable.

By order of the Governor,
S. N. ROY, Dy. Secy.

POLICE DIRECTORATE

Orders by the Inspector-General of Police, West Bengal

No. 5533A.—23rd June 1961.—**Hooghly-Durgapur.**—The services of Shri P. J. Morrison, Armed Inspector, Hooghly, are, in terms of Government order No. 2160GA, dated 1-6-1961, placed at the disposal of the Government of India, Ministry of Steel, Mines and Fuel, for employment as a Security Officer in the Security Organisation of the Durgapur Steel Project,

স্বরাষ্ট্র বিভাগ।

HOME DEPARTMENT

সাধারণ শাসন।

General Administration

নং ২৭২৬জি,এ।

No. 2726G.A.

নিয়োগ ও বদলি।

Appointments and Transfers

সাধারণ

General

No. 2536GA/5C-31/61.—23rd June 1961.—The Governor is pleased to appoint Shri T. C. Dutt, IAS, Additional District Magistrate, Hooghly, to be, in addition to his duties, the Administrator, Chandernagore, until further orders.

By order of the Governor,
R. GUPTA, Chief Secy.

নং ২৬১২জি এ।১ডি-৩০।৬১।—২৭এ জুন ১৯৬১।—হাওড়া জেলার অবর উপশাসক ও সমাহর্তা শ্রীরঞ্জিতকুমার গঙ্গোপাধ্যায় নদিয়া জেলার রানাঘাটে নিযুক্ত হইলেন।

No. 2612G.A./1D-30/61.—27th June 1961.—The Governor is pleased to appoint Shri Ranjit Kumar Gangopadhyay, Sub-Deputy Magistrate and Sub-Deputy Collector, Howrah, to be a Sub-Deputy Magistrate and Sub-Deputy Collector in the Nadia district and to post him to the Ranaghat subdivision of that district.

নং ২৬১৩জি এ।১ডি-৩০।৬১।—২৭এ জুন ১৯৬১।—নদিয়া জেলার রানাঘাটের উপশাসক ও সমাহর্তা শ্রীমননকুমার মুখোপাধ্যায় হাওড়া জেলার সদরে নিযুক্ত হইলেন।

No. 2613G.A./1D-30/61.—27th June 1961.—The Governor is pleased to appoint Shri Manan Kumar Mukherjee, Deputy Magistrate and Deputy Collector, Ranaghat, Nadia, to be a Deputy Magistrate and Deputy Collector in the Howrah district and to post him to the headquarters station of that district.

By order of the Governor,
N. K. SEN, GUPTA, Under Secy.

RESOLUTION

No. 2694G.A.—5th July 1961.—Under the Finance Department resolution No. 1064F., dated the 5th April 1961, the Personal Assistants (Stenographers) drawing pay in the higher selection grade have been given the status of full-fledged gazetted officers. The question of conferment of gazetted status on the Personal Assistant (Stenographer) to the Secretary, Home Department, has been considered by Government. The Governor has been pleased to decide that with effect from the date of publication of this resolution in the "Calcutta Gazette", the Personal Assistant (Stenographer) to the Home Secretary will be regarded as a full-fled and accorded all the privileg officers.

By ord
N. K. SEN G

আরক্ষা

Police

নং ২৬০০জি এ।৩ডি-৩৫।৬০।—২৬এ অন্যতম অস্থায়ী সহ-নগরপাল শ্রীনৃপেন্দ্রচন্দ্র সংস্থার উপকেন্দ্রীয় চার অধিকারিকের পদে স্বরাষ্ট্র মন্ত্রকের অধীনে ন্যস্ত করা হইল।

No. 2600GA/3D-35/60.—26th Governor is pleased to place th Nripendra Chandra Chakr Assistant Commissioner of Polic disposal of the Government of Home Affairs, for employment Intelligence Officer in the Intel

No. 2618GA/3D-23/61.—27t Governor is pleased to place th Akshay Kumar Mukherji, I District Intelligence Branch, B posal of the Government of Ind ways, Railway Board, for emp Intelligence Officer (I) unde Locomotive Works.

By orde
N. K. SEN G

ছুটি

Leave

সাধারণ।

General

No. 2545GA.—26th June 19 pleased to cancel the orders issu ment notification No. 1641GA, 1961, allowing leave for four from the 22nd July 1961 to Sh Commissioner, Presidency Di

By order
R. G

নং ২৫৩০জি এ।৬এল-৬।৬১।—২৩এ সরকারের স্বরাষ্ট্র (রাজনৈতিক) বিভাগের পশ্চিমবঙ্গ কৃত্যক নিয়মাবলীর (১ম খণ্ড) সারে ১৯এ মে ১৯৬১ তারিখে ২০১২ ছুটির সহিত ২১এ মে ১৯৬১ তারিখ হইতে পর্যন্ত এক মাস তিন দিনের পুরা গড় বেতন

No. 2530GA/6L-6/61.—23rd Governor is pleased to allow Ray, Assistant Secretary, Department, provisionally, le for the period of one month the 21st May 1961 to the 23 rule 184(b)(ii) of the West Be Part I, in extension of leave him under this department's 2012GA, dated the 19th May

alcutta Gazette

सत्यमेव जयते

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effect
one month's wages have been
address. It further appears
on the postal envelope that
The receipt for the postal
has not been produced.
in examination-in-chief
wages had been sent to
and it actually reached him
i.e., 5/6 days after the 9th
he did not accept the money.
also admits that the
to him by the money order
efused to accept it. There is,
the record to show when this
remitted and when it reached
On behalf of the
money order receipt nor the
he was being dismissed with
been produced and there is
this omission. If, therefore,
33(2)(b) could be interpreted
that the conditions mentioned
be fulfilled before the work-
dismissed it would have to
these conditions, namely, the
wages in his case at least
but as the Supreme Court
case of Lord Krishna Textile
[1961(I) LLJ 211] the
two interpretations. Accord-
two possible views the condi-
the proviso are conditions
missal or discharge of a work-
to the other they are not
precedent. The Supreme
out that there are certain
either view but it made it quite
deciding which of these two

by an amendment of the proviso or by a definite decision of the Supreme Court, parties are entitled to make use of it in their own interest. If that is the position in law, as the Supreme Court has observed, it would be open to an employer to take either view of the law as correct and to act accordingly so that it cannot be said that even if the money was sent to either of these two men after the dismissal the order of discharge or dismissal would be vitiated thereby. If nothing in the proviso has been contravened it is not the case of the applicants that any other provision of section 33 has been contravened. It must accordingly be held that there has been no contravention of any of the provisions of section 33 of the Industrial Disputes Act by Shri S. K. Bhattacharjee and Shri Madhusudan Banerjee must accordingly be held to be not maintainable and my award on both these applications is that neither of their applications is maintainable on the ground that there has been no contravention by the employers of any of the provisions of section 33. The question on the merits of the dismissal of these two employees is dealt with separately in the order on the employer's application under section 33(2)(b).

Dictated and corrected by me.

S. N. GUHA ROY, Judge.

S. N. GUHA ROY,
Judge, First Industrial Tribunal.
The 31st May 1961.

By order of the Governor,
S. C. MUKHERJEE, Asst. Secy.

Labour Department, order No. 5547-I.R./IR/10L-28/58, dated the 27th December 1958, read with its corrigenda Nos. 1221-I.R./IR/10L-20/58, dated the 23rd March 1959, and 1564-I.R./IR/10L-20/58, dated the 20th April 1959, the industrial dispute between Messrs. Dishergarh Power Supply Co. Ltd., post office Dishergarh, district Burdwan, and their workers represented by the Dishergarh Power Workers' Union, post office Sundarchak, district Burdwan, regarding the issues mentioned in the said order read with its said corrigenda being matters specified in the second and the third schedules to the Industrial Disputes Act, 1947 (XIV of 1947), was referred to the First Industrial Tribunal for adjudication;

And whereas during the pendency of proceedings before the said industrial tribunal, Shri M. S. Banerji and Shri S. K. Bhattacharjee, two workmen of the said company, made complaints in writing to the said industrial tribunal against the said company alleging that the said company had discharged the said workmen concerned in such dispute;

And whereas in exercise of the powers conferred by section 33A of the Industrial Disputes Act, 1947 (XIV of 1947), the said industrial tribunal has adjudicated upon the said complaint and submitted its award to the State Government;

Now, therefore, in pursuance of the provisions of section 17 of the Industrial Disputes Act, 1947 (XIV of 1947), the Governor is pleased hereby to publish the said award as shown in the annexure hereto.

ANNEXURE

In the matter of an application under section 33A of the Industrial Disputes Act of Shri M. S. Banerjee, an employee of Messrs. Dishergarh Power Supply Co. Ltd., against the said Company in case No. 262 of 1960 under section 33A under Government order No. 5547-I.R. of the 27th December 1958.

And

In the matter of an application under section 33A of the Industrial Disputes Act of Shri S. K. Bhattacharjee, an employee of Messrs. Dishergarh Power Supply Co. Ltd., against the said company in case No. 263 of 1960 under section 33A under Government order No. 5547-I.R., dated the 27th December 1958.

BEFORE THE FIRST INDUSTRIAL
TRIBUNAL, WEST BENGAL

Present:

Shri S. N. GUHA ROY, ICS (retd.), Judge,
First Industrial Tribunal

Appearances:

For the company: Shri R. Goswami, Advocate.
For the union: Shri Gopeswar.

263 of 1960), both of whom
misconduct on the 9th of Se
Dishergarh Power Supply Co.
both of them applied on the 8
for approval of the action tal
employees and these applicat
224 and 223 of 1960. These
heard together, along with t
company under section 33(2)
Disputes Act with the conse
because evidently all these
interconnected questions.
which arises in the applicatio
of the Industrial Disputes A
Nos. 262 and 263 of 1960, is
tions are maintainable at all.
that where an employer con
section 33 during the penden
before a tribunal any employe
contravention may make a
to such tribunal. The
therefore, to the maintainabili
under section 33A is the co
employer of the provisions of
33(2)(b) which is relavant fo
follows: "During the pend
proceeding in respect of an i
employer may, in accordance
order applicable to a workma
dispute,.........(b) for any mis
ed with the dispute discharg
by dismissal or otherwise th
vided no such workman sha
dismissed unless he has been
month and an application has
employer to the authority
proceeding is pending for ap
taken by the employer."

As the main reference und
Industrial Disputes Act out o
applications under section 33
(b) of the Industrial Dispute
the Government order, dated
1958, there is no doubt that
taking action either by wa
dicharge against an employee
connected with the main disp
with the provisions of section
in the event of any non-compl
the employer with any of
section 33 that an application
would be maintainable. The
whether the employer has con
provisions of section 33. The
tion under section 33(2)(b) w
8th of September 1960 wherea
the order of dismissal was
September 1960 and with imm
other condition that has to
section 33(2)(b) provision is
wages have to be paid to t
S. K. Bhattacharjee denied ha
9th September 1960 any letter
But Ex. J together with the
was posted and the acknowl

(total of the last columns of
3).

(total of the last columns of
2 and 4).

(total of the last columns of
2 and 5).

(total of the last columns of
2 and 6).

the rehabilitation costs for
and buildings in respect of
ars and deducting therefrom
unt calculated for the previ-
ll available the position is as

allowed in the previous
adjudication for 1951)

these years after deduction of
as found in paragraph 15, are:

Rs.

... 5,83,307
... 1,69,038
... 3,49,271
... 7,12,647

year 1953 there is a deficit and
1954 there is a net surplus
which is not sufficient for pay-
Only in respect of the years

should therefore be rejected and only in respect of the years 1952 and 1955 they are entitled to get bonus.

25. The next question is what should be the quantum of bonus for 1952 and 1955. For 1952 the unions' claim is for bonus equivalent to three months' basic wages. In the company's chart (Ext. B) the amount of Puja bonus paid for 1952 at the rate of one month's basic wages has been shown as Rs. 71,796. Payment of three months' basic wages will amount to Rs. 2,15,388. This will leave a small balance for the company and though the company will be entitled to income tax rebate on the amount, even then the company's share will be much less than this amount. As the Supreme Court observed in the case of Associated Cement Companies (Supra) three parties are entitled to claim a share each in the available surplus, viz., labour, shareholders and the industry. The industry claims a share for expansion and other needs. In the present case the industry has been expanding. Of course an equal division amongst the three sharers is not possible and cannot be claimed by the company. In many decisions, labour has been given a greater share because it is poorly paid. I think that it will be fair to all the parties concerned, if bonus equivalent to two months' basic wages is allowed for the year 1952. This will leave for the industry and the shareholders a sum of Rs. 1,41,982 and together with the income tax rebate their share will be over rupees two lacs. As regards the year 1955 the unions' claim is for bonus equivalent to five months' basic wages. The amount of Puja bonus paid in 1955 was Rs. 83,117. I think that it will be fair to all the parties to award three months' basic wages as bonus for this year which will amount to Rs. 2,49,351. This will leave for the industry and the shareholders a balance of over rupees two lacs, and the company will also get the benefit of the income tax rebate amounting to a little over a lac of rupees.

The result, therefore, is that I award two months' basic wages as bonus for the year 1952 and three months' basic wages as bonus for the year 1955. The amounts should be paid within three months from the date of publication of this award to all workmen who worked throughout during the respective years. The claims for bonus for the years 1953 and 1954 in the first case and for 1957 and 1958 in the last case are rejected.

Dictated and corrected by me.

P. K. SARKAR, Judge.

P. K. SARKAR,
Judge, Second Industrial Tribunal,
West Bengal.

The 22nd May 1961.

By order of the Governor,

PLANT MACHINERY

Block	Original cost. (Excluding values of motor cars, lorries, tractors and furniture, as shown in B-19).	Multiplier	Total	Deduct scrap value at 5 per cent.	Balance
	Rs.		Rs.	Rs.	Rs.
1. 1939	7,16,872	5	35,84,360	35,843	35,48,517
2. 1940-44	3,83,326	3	11,49,978	19,166	11,30,812
3. 1945-48	4,58,622	3	13,75,866	26,355	13,49,511
4. 1949-51	1,12,018	1·5	1,68,027	5,600	1,62,427
5. 1949-52	1,94,997	1·5	2,92,495	9,749	2,82,746
6. 1949-53	2,12,785	1·5	3,19,177	10,639	3,08,538
7. 1949-54	3,81,825	1·5	5,72,737	19,091	5,53,646

From the above calculations the rehabilitation cost of plant and machinery for the four years 1952, 1953, 1954 a

1952—Rs. 4,03,662 (total of last columns of blocks nos. 1 to 4).

1953—Rs. 4,08,474 (total of last columns of blocks nos. 1 to 3 and 5).

1954—Rs. 4,09,506 (total of the last columns of blocks nos. 1 to 3 and 6).

1955—Rs. 4,19,310 (total of the last columns of blocks nos. 1 to 3 and 7).

BUILDINGS

Block	Original cost	Multiplier	Total	Deduction of scrap value at 5 per cent.	Balance
	Rs.		Rs.	Rs.	Rs.
1. 1939	4,55,827	3	13,67,431	22,792	13,44,689
2. 1940-48	3,53,887	2	7,07,774	17,694	6,90,080
3. 1949-51	59,737	1·5	89,605	2,987	86,618
4. 1949-52	77,051	1·5	1,15,577	3,853	1,11,724
5. 1949-53	83,717	1·5	1,25,576	4,186	1,21,390
6. 1949-54	3,31,699	1·5	4,97,549	16,585	4,80,964

vier machines. value will be affected after the periods. But he also admitted pairs after the above periods ould last 15 to 20 years and the thirty years with some loss of sion. He further admitted that 30 machines which were more ld and were still occasionally in t of efficiency or precision value fter repairs on the expiry of the has not been made clear. The lculations adopted twenty years of the machines, both light and ce has been given as to how chines and how many are heavy ortion between them is. Many ve been purchased after the war life of these improved types of to be much more than that of so that the divisor in their case as was observed by the Supreme of Cannanore Spinning and 960 (II) L.L.J. 43. Taking all nsideration I think that it will e to take the life of the machines ing heavy and light machines to ead of twenty years. Therefore by the company in its calculabe proportionately increased.

ome to the buildings. The f both pucca buildings and sheds. heds being nearly three-fourth of cording to the company's chart. buildings have also been divided viz., pre-1939 block, 1940-48 subsequent blocks as added year company has adopted 4 as the block, 2 for 1940-48 block, 1.5 54 and 1 for the last two blocks. dispute as to the original cost As to the multipliers the Engineer gave evidence that the has risen by 300/400 per cent. this evidence instead of taking be 4 I think it would be more it to be 3. As regards the other pt the same as they do not seem and follow from the evidence of is certainly an expert competent int. As regards the divisors the ssed the average life of the sheds nd that of the buildings at thirty pany has adopted the divisor 20 ldings in its calculations. This d as low and it has been contended buildings and the pucca walls heds will last much longer. The agree that the life of a pucca taken to be forty years and he condition and the hair cracks n the roofs, but he did not also ful life would in no case extend ears. Taking everything into hink that it will be more proper verage life of thirty years for all

Associated Cement Companies [1959 (I) L.L.J. 644] that before actually awarding the rehabilitation cost certain deductions should be made. The first deduction to be made is the breakdown value which is usually calculated at 5 per cent. of the cost. This has been deducted in the company's calculations. Next the depreciation and general liquid reserves available to the employer have to be deducted. The company has not, however, deducted any of the reserves relying on the subsequent decision of the Supreme Court in the case of Khandes Spinning and Weaving Mills, 1960 (I) L.L.J. 541, in which it was held that the reserves which had been used as working capital during the bonus year should be taken as not available for the purpose of rehabilitation and so should not be deducted from the rehabilitation amount. Since the company has given evidence that all the available liquid reserves had been utilised as working capital during each of the relevant years and I have accepted that evidence, no deduction can be made of the said reserves from the rehabilitation amounts.

22. Finally, according to the decision in the case of Associated Cement Companies it will have to be seen whether the rehabilitation amount allowed in previous years had been actually spent for the purpose of rehabilitation or was still available. If such amount had not actually been utilised for rehabilitation purposes and was available it will have to be deducted from the rehabilitation amount for the bonus year. The company has given no evidence as to what amounts were actually spent for rehabilitation purposes in any of the relevant years and no such amount has been taken into account or shown in the calculations. The evidence of the company's Works Manager is that only occasionally one or two machines had been replaced costing Rs. 1 or 2 lacs each. This evidence is vague and not sufficient to show how much was really spent for rehabilitation purposes. The company has of course purchased many new machines but they were purchased not for the purpose of rehabilitation but for expansion after floating new capital. In the circumstances it must be held that there is no proof as to how much had been spent for rehabilitation purposes during any of the relevant years. In the previous adjudication regarding bonus for the year 1951 a sum of Rs. 2,13.565 had been allowed as rehabilitation cost. There being no evidence that this sum had been used for rehabilitation purposes during the year 1952 the amount should be deducted from the rehabilitation amount for that year and similarly all the amounts which may be allowed for rehabilitation cost in these cases for the other relevant years should be taken as still available to the company in the absence of any evidence that they had been utilised for rehabilitation purposes. The amount allowed for a particular year should therefore be deducted from the rehabilitation amount for the next year.

23. In calculating the rehabilitation amounts for the years in respect of which bonus has been claimed the years 1957 and 1958 should be excluded

from certain quotations and price lists which have also been produced (Ext. D series). There are in all nine such blocks, the first block being the pre-1939 block. Comment has been made on the fact that the company has not mentioned itemwise the cost of the machineries. There is also the suggestion that some obsolete machines might have been included in the pre-1939 block, but the evidence of the company's Works Manager is that only full and running machines have been included in the blocks and this evidence is supported by the evidence of the unions' witness that no machine has yet been declared obsolete by the company and that all the machines are in working order. In the case of a factory using a very large number of machines itemwise classification is not possible and blockwise classification is the recognised method. At the original hearing of the first case the company had produced its block registers which had been inspected by the unions and in their written statement filed at the time the unions had stated in paras. 18-20 that the block registers contained reliable information about the machineries, spread over, etc. It appears from the award that at that hearing the unions did not challenge the entries in the block registers, though they challenged the entries regarding the gross block in the balance-sheets. There are certain discrepancies between the figures of the block registers and those of the balance-sheets and these discrepancies are said to be due to the fact that when a machine was purchased it was at once entered in the block register but was not included in the balance-sheet until it was installed. However, where the figures in the block registers are lower the company has taken those figures for its calculation instead of the higher figures in the balance-sheets. So far as the 1939 block is concerned, the block register figures which are lower have been taken. According to the comparative chart filed (Ext. B-18) the figures in the block registers and in the balance-sheets regarding the cost of machineries agree from the year 1949 onwards. They differ only regarding the earlier blocks—1939, 1940-44 and 1945-48. I accept the figures in the block registers for the original cost of the machineries as in this chart. The company has included in its calculations of the blockwise cost of machineries and plant, electric installations, tube-well installations, motor cars, motor lorries, tractors and furniture, as shown in Ext. B-19. Tube-well installations and electric installations may be included in plant and machineries but I do not see how motor cars, motor lorries, tractors and furniture can be so included. No evidence has been given regarding the useful life of such things or their present prices. I therefore propose to exclude them from the calculation of rehabilitation cost. I may mention in this connection that in the previous adjudication of profit bonus for 1951 these items except furniture were excluded by the Labour Appellate Tribunal. The values of the above items have been given separately in Ext. B-19.

18. After the original cost of the machines has been ascertained the next thing necessary is to find out the suitable multipliers according to present

been called, popular mac
Manager has' explained that
he meant machines which
Thus the company has 25
different sizes manufactured
Alfred Herbert, and the pre
popular of such lathes were
manufacturer on the basis
of such lathes has been wo
average. Prices will vary
it is said that that will no
average multiplier. Most
to the prices of 1960 and onl
1955 or 1958. Objection w
prices but as the Supreme
case of Associated Cement
L.L.J. 644, the price levels
year but also of the year
being considered by the tri
into account in determinin
replacement. The prices of
relevant. Comment was als
quotations of Indian prices
the unions' witness gave ev
machineries were cheaper.
given about prices of such
made in India and such va
are of no help. It was n
was not clear from the
machines of which price
obtained were exactly of t
machines sought to be rep
machine prices included acc
therefore contended that the
either of improved types of
kinds of machines. For the
that machines exactly sim
which had been purchased
be available now since the
improved in the meantime a
ments would not make the
and should not be taken into
not materially affect prod
was put to the company's
admitted that the machines
had been obtained were o
would give slightly more p
rehabilitation also includ
machineries and many type
have since become obsolete w
by modern machines of im
consideration of the fact th
will yield better production
that the prices quoted are c
machines relating mostly to
inclusive of accessories, I thi
should be made therefor in c
priate multiplier. I theref
the multiplier to 5 regarding
making similar allowances I
priate multiplier for the 1940
to be 3. For the four block
1949-53 and 1949-54 the con
which is reduced to 1.5 for t
the remaining two blocks the

19. As regards divisors
Manager's evidence is that

the compan
d to borrow largely from the
all likely that the company
d the liquid assets in hand
business in order to avoid
st as far as possible. With
evidence given by the
mpany is certainly acceptable
mpany did utilise its available
se of working capital during
entitled to claim a return on

calculation on the amount
company made the mistake
of reserves at the end of a
amount utilised as working
ear. It is only the reserves
ning of a particular year
or the purposes of working
year. A revised statement to
been submitted by the
17). So far as the amounts
account and profit and loss
however, the evidence of
not specifically prove that
ed as working capital. He
serves as having been so
mention whatsoever of these
In the statement for 1957
000 described as proposed
also been included as work-
accountant did not say that
in the case of Peirce Leslie
(I) L.L.J. 809, the Supreme
items were current liabilities
out of the current assets
the absence of evidence to
should therefore be excluded
Excluding these items the
capital are estimated as

	Rs.
...	18,60,000
...	24,60,000
...	27,10,000
...	29,60,000
...	39,27,365
...	39,27,365

4 per cent. is the usual rate
and so this rate is allowed.
above amounts at 4 per cent.

	Rs.
...	74,400
...	98,400
...	1,08,400
...	1,18,400
...	1,57,094
...	1,57,094

1952	...	5,83,207
1953	...	1,39,038
1954	...	3,49,271
1955	...	7,12,647
1957	...	55,874 (Deficit)
1958	...	24,046

16. Finally, the company has claimed large amounts as rehabilitation cost of plant, machineries and buildings. On this matter certain general objections have been taken by the unions. One objection is that the company should not be allowed any rehabilitation cost because rehabilitation is not necessary and the machines can work and are actually working in good condition after occasional repairs and replacement of parts, as stated by the company's Works Manager. It has also been argued that the general, depreciation and machinery reserves are sufficient to cover the rehabilitation cost. There is no substance in such objections. It may be that some of the old machines are still being worked, but there can be no doubt that their efficiency has decreased or is gradually being lost and the evidence of the company's Works Manager is to the same effect. The necessity for rehabilitation must be recognised and provision made therefor, even though old machines have not yet been replaced. The learned counsel for the company has pointed out that though there was urgent need for replacing many of these machines, replacement could not be undertaken for want of adequate funds. He has also pointed out that as the company manufactures machines like jute machines, printing machines, roadrollers, etc., the machineries it has to employ for that purpose require a high degree of precision and that in order to maintain such precision rehabilitation is a necessity. The reserves are not sufficient for rehabilitation purposes in view of the large increase in the prices of machineries after the last war and, therefore, additional rehabilitation cost must be allowed, as has been repeatedly held by the Supreme Court in its decisions on profit bonus. In the case of Cannanore Spinning and Weaving Mills, 1960 (II) L.L.J. 43, the Supreme Court rejected the suggestion that post-war machinery would not require rehabilitation. The next objection is that the company is really expanding its business and has largely increased its share capital for introducing new manufactures and started a wagon factory at Mokamah and that in the name of rehabilitation and replacement the company cannot be permitted to purchase new costly machines for the purpose of expansion. But the company has expanded its business by raising new share capital and it does not want rehabilitation cost for the purpose of such expansion. When once a machine is purchased—whether for expansion or for the maintenance of the original manufactures—such machine must in the very nature of things require rehabilitation in future after the period of its usefulness has been exhausted, and so the company is entitled to claim rehabilitation cost for all additions to its machineries.

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d 13, Alipore Avenue;
mises No. 24/7, Raja Santosh
e remaining portion of premises
ipore Avenue and a 20 ft. wide
tely) common passage;
10 ft. projected road diverting
re Avenue;
needed for the aforesaid public
pense of the Calcutta Corporation
aid ward No. 72 of the Calcutta
the city of Calcutta.
n is made under the provisions of
I of 1894, to all whom it may

land may be inspected in the
ond Land Acquisition Collector,
5, Bankshall Street, Calcutta.
he powers conferred by the afore-
Governor is pleased to authorise
the time being engaged in the
their servants and workmen, to
urvey the land and do all other
permitted by that section.
erested in the above land, who
to the acquisition thereof, may,
s after the date on which public
tance of this notification is given
le an objection in writing before
Acquisition Collector, Calcutta,
all Street, Calcutta.

By order of the Governor,
B. CHAKRABARTI, Dy. Secy.

10216L.A.—*26th June 1961.*—
pleased to cancel the notification
lated the 19th February 1958,
f the Land Acquisition Act I of
at page 586, Part I of the
" of the 27th idem, in respect
cquisition of 0.0889 of an acre
by the Calcutta Electric Supply
, for the construction of a Recti-
in ward No. 10 of the Calcutta
he city of Calcutta.

By order of the Governor,
B. CHAKRABARTI, Dy. Secy.

10218L.A.—26th June 1961.—
pleased to cancel the notification
lated the 28th September 1959,
f the Land Acquisition Act I of
t pages 3584-3585, Part I of the
," of the 8th October 1959, in
posed acquisition of 0.2313 of an
uired by the Calcutta Electric
n, Ltd., for the establishment of
their mains and commercial
the Shambazar area, in ward
alcutta Municipality in the city

By order of the Governor,

1961, under section 4 of [illegible] Act I of 1894, published at pages 1692-1693, Part I of the "Calcutta Gazette" of the 25th May 1961 in respect of acquisition of land for the construction of Marshalling Yard for the Coal Washery Project in the villages of Nabagram, Santaldih and Ichhar, jurisdiction list Nos. 2, 10 and 3, respectively, police-station Raghunathpur, Pargana Cheleyama, district Purulia—

Read the figure "2927" for the figure "2027" in line 40.

Read the word "full" in place of the word "part" in line 56.

Delete the figure "3519" after the figure "3518" in line 59 and insert the same before the figure "3528" in line 56.

Delete the figure "3538", "3548" and "3549" in lines 56 and 57 and insert the same after the figures "3521" and "3547" in lines 76 and 77.

Delete the figures "3529", "3530" in line 77 and insert the same after the figure "3527" in line 59.

Delete the figure "3539" in line 60 and insert the same before the figure "3540" in line 76.

By order of the Governor,
B. CHAKRABARTI, Dy. Secy.

DECLARATIONS

Bankura.—No. 9840L.A.—19th June 961.—Whereas the functions of the Central Government under the Land Acquisition Act, 1894 (I of 1894), in relation to the acquisition of land for the purpose of the Union have been entrusted to the State Government by notification No. 20/1/55-Judl.(1), dated the 14th May 1955, issued by the *Government fo India* in the Ministry of Home *Affairs under clause* (1) of article 258 of the Constitution of India as *SRO1074 and published* at page 868, Part II, Section 3, of the "Gazette of India," dated the 21st May 1955;

And whereas the Governor is satisfied that land is needed for a public purpose, being a purpose of the Union, namely, for setting up an Industrial Extension Centre in the villages of Adhwarjabandh and Kenduadihi, jurisdiction list Nos. 227 and 213, respectively, police-station Bankura, district Bankura, it is hereby declared that a piece of land comprising part of cadastral survey plot Nos. 509 and 510 of mauza Adhwarjabandh and part of cadastral survey plot No. 453 of mauza Kenduadihi and measuring, more or less, 0.86 of an acre is needed for the aforesaid public purpose at the public expense within the aforesaid villages of Adhwarjabandh and Kenduadihi.

The declaration is made, under the provisions of section 6, Act I of 1894 and section 3, clause (1), Act XVIII of 1885, to all whom it may concern.

A plan of the land may be inspected in the office of the Special Land Acquisition Officer, Bankura.

By order of the Governor,
B. CHAKRABARTI, Dy. Secy.

K.V. Chandrapura-Purulia Transmission Line in connection with the promotion and operation of schemes for generation, transmission and distribution of electric energy in the village of Dumdumi (sheet No. 2), jurisdiction list No. 256, police-station Purulia, district Purulia, it is hereby declared that for the above purpose pieces of lands comprising parts of cadastral survey plot Nos. 5406, 5424, 5550, 6038, 6052, 6058, 6100 and 6102 and altogether measuring, more or less, 0.1050 of an acre are needed for the aforesaid public purpose at the expense of the Damodar Valley Corporation within the aforesaid village of Dumdumi.

Mines of coal, iron-stone, slate or other minerals lying under the land or any particular portion of the land, except only such parts of the mines and minerals as it may be necessary to dig or carry away or use in the construction of the work for the purpose of which the land is being acquired, are not needed.

This declaration is made under the provisions of section 6, Act I of 1894, and section 3, clause (1), Act XVIII of 1885, to all whom it may concern.

A plan of the land may be inspected in the office of the Special Land Acquisition Collector, Damodar Valley Project, Purulia.

By order of the Governor,

B. CHAKRABARTI, Dy. Secy.

Purulia.—No. 10008L.A.—21st June 1961.—Whereas the Governor is satisfied that land is needed for a public purpose, not being a purpose of the Union, viz., for the Tower Bases of 132 K.V. Chandrapura-Purulia Transmission Line in connection with the promotion and operation of schemes for generation, transmission and distribution of electric energy in the village of Manipur, jurisdiction list No. 258, police-station Purulia, district Purulia, it is hereby declared that for the above purpose pieces of lands comprising parts of cadastral survey plot Nos. 172, 288 and 289 and altogether measuring, more or less, 0.035 of an acre are needed for the aforesaid public purpose at the expense of the Damodar Valley Corporation within the aforesaid village of Manipur.

Mines of coal, iron-stone, slate or other minerals lying under the land or any particular portion of the land, except only such parts of the mines and minerals as it may be necessary to dig or carry away or use in the construction of the work for the purpose of which the land is being acquired, are not needed.

This declaration is made under the provisions of section 6, Act I of 1894, and section 3, clause (1), Act XVIII of 1885, to all whom it may concern.

A plan of the land may be inspected in the office of the Special Land Acquisition Officer, Damodar Valley Project, Purulia.

By order of the Governor,

B. CHAKRABARTI, Dy. Secy.

the purposes of the Union, have
the State Government by notifi
55-Judl.(1), dated the 14th May
the Government of India in
Home Affairs under clause (1)
the Constitution of India as S.
published at page 868, Part II,
"Gazette of India," dated the 2

And whereas the Governor is
land is needed for a public pur
pose of the Union, namely, for
water-supply by the Eastern Ra
pur in the village of Keshpal,
No. 200, police-station Khar
Kharagpur, district Midnapore
declared that the pieces of
cadastral survey plot Nos. 385 a
of cadastral survey plot Nos. 38
387 and measuring, more or les
needed for the aforesaid public
public expense within the afor
Keshpal;

This declaration is made und
of section 6 of the Land Acquisiti
read with the said notification,
may concern.

A plan of the land may be in
office of the Collector of Midnap

By order of

B. CHAKRA

Hooghly.—No. 10202L.A.—26
Whereas the Governor is satis
needed for a public purpose, not
of the Union, namely, for the co
Administrative building and staf
Singur Stage I Development Blo
of Kismet-Apurbapur, jurisdicti
police-station Singur, district
hereby declared that a
comprising cadastral survey
824, 825, 826, 842 and par
survey plot Nos. 814, 823, 827
847 and 928 and measuring, r
acres, is needed for the aforesai
at the public expense within the
of Kismet-Apurbapur;

This declaration is made under
section 6 of Act I of 1894, to a
concern.

A plan of the land may be
office of the Special Land A
Hooghly.

By order

B. CHAKRAB

the acquisition of land for the
union have been entrusted to the
ent by notification No. 20/1/55-
d the 14th May 1955, issued by the
India in the Ministry of Home
clause (1) of article 258 of the
India;

the Governor is satisfied that the land
public purpose, being a purpose of the
for the construction of Marshalling
al Washery Project in the villages of
aldih and Ichhar, Jurisdiction list Nos. 2
ectively, police-station Raghunathpur,
ma, district Purulia, it is hereby dec-
e of waste and arable land comprising
y plots 2048, 2050, 2051, 2052,
, 2070, 2071, 2073, 2142, 2144, 2145,
, 3295, 3296, 3301, 3303, 3304, 2915,
2918 and parts of cadastral survey
2023, 2024, 2025, 2026, 2027, 2028,
, 2046, 2047, 2049, 2053, 2056, 2057,
, 2068, 2069, 2072, 2074, 2075, 2140,
, 2147, 2150, 2151, 2152, 2153, 2154,
, 2927, 2928, 2929, 2931, 2937, 2938,
, 3292, 3293, 3298, 3302, 3305, 3306,
320 of mauza Nabagram and cadastral
353, 991, 994, 995, 996, 1001, 1010,
, 1192, 1193, 1462, 1465, 1466, 1467,
1473, 1474, 1475 and 1476 and parts of
plots 310, 847, 849, 990, 993, 997,
1003, 1004, 1005, 1006, 1007, 1008,
, 1015, 1028, 1029, 1032, 1033, 1034,
, 1187, 1189, 1191, 1194, 1195, 1196,
, 1313, 1314, 1424, 1455, 1460, 1461,
1480, 1481 and 1500 of mauza Santaldih
urvey plots 3519, 3528 and 6471 and
al survey plots 3484, 3517, 3518,
, 3527, 3529, 3530, 3532, 3533, 3534,
, 3551, 3560, 3561, 3568, 3569, 3570,
3772 of mauza Ichhar and measuring,
8625 acres are likely to be needed for
ublic purpose at the public expense
esaid villages of Nabagram, Santaldih

l, iron-stone, slate or other minerals
e land or any particular portion of
t only such part of the mines and
may be necessary to dig or carry
the construction of the work for
which the land is being acquired,

ion is made under the provisions of
t I of 1894 and section 3, sub-
XVIII of 1885 read with the said
all whom it may concern.

e land may be inspected in the
puty Commissioner, Purulia.

By order of the Governor,

Purulia.—No. 9534L. Ref. June 1961.
In exercise of the power conferred by clau
(XXV) of section 3 of the Chhotanagpur Tenan
Act, 1908 (Bengal Act 6 of 1908), as adopted fo
facilitating its application in relation to the di
trict of Purulia in West Bengal, read with ru
40 of the Chhotanagpur Tenancy Rules, 193
as in force in the said district, the Governor i
pleased to appoint Shri Indu Bhusan Chatterjee
Special Revenue Officer, Grade II, to discharge
the functions of a Revenue Officer under the sai
Act with the additional designation of th
Assistant Settlement Officer for the purpose of
making surveys and preparing and revising th
record-of-rights under chapter XII of the sai
Act in respect of the district of Purulia in We
Bengal, constituted by the Government of We
Bengal, Home (General Administration) Depar
ment notification No. 3855G.A., dated the 1
November 1956.

By order of the Governor,

H. L. CHAKRAVARTI, Dy. Secy

Purulia.—No. 9536L. Ref.—15th June 1961.
In exercise of the power conferred by section
of the Bengal Survey Act, 1875 (Bengal Act
of 1875), the Governor is pleased to appoint Sh
Indu Bhusan Chatterjee, Special Revenue Office
Grade II, to be the Assistant Superintendent
Surveys, to exercise all the powers of a Collect
under the said Act within the district of Purul
constituted by the Government of West Benga
Home (General Administration) Departme
notification No. 3855G.A., dated the 1st Novemb
1956.

By order of the Governor,

H. L. CHAKRAVARTI, Dy. Secy

West Dinajpur.—No. 10044L. Ref.—22nd Ju
1961.—The Governor is pleased to reappoint Sh
Probodh Chandra Ganguly, retired Subdivision
Compensation Officer, now working as Distri
Compensation Officer, West Dinajpur, to act
his present post for a further period from the 1
June 1961 to the 31st August 1961.

By order of the Governor,

H. L. CHAKRAVARTI, Dy. Secy

Midnapore-24-Parganas.—No. 10046L. Ref.
22nd June 1961.—The Governor has been pleas
to reappoint Shri S. C. Gupta Bakshi, retir
District Compensation Officer, working as Distri
Compensation Officer, Midnapore, under orders
transfer to 24-Parganas, to act,—

(1) for the period from the 1st June 1961
the date of relinquishment of charge,
District Compensation Officer, Midnapor
and

(2) thereafter up to the 31st August 1961
District Compensation Office
24-Parganas.

ate and
istrict Compensation Officer, Burdwan, to act in
is present post for the period from the 1st June
961 to the 31st August 1961 as a special case.

Howrah.—No. 10050L. Ref.—22nd June 1961.
The Governor is pleased to reappoint Shri
agatbandhu Bhattacharjee, retired Deputy
agistrate and Deputy Collector, re-employed as
istrict Compensation Officer, Howrah, to act in
is present post for a further period from the 1st
une 1961 to the 31st August 1961.

Bankura-Midnapore.—No. 10052L. Ref.—22nd
une 1961.—The Governor has been pleased to re-
ppoint Shri N. N. Ghosh, retired District Com-
ensation Officer, re-employed as District Compen-
tion Officer, Bankura, under orders of trnasfer
Midnapore, to act,—

(1) for a further period from the 1st June 1961 to the date of relinquishment of charges as District Compensation Officer, Bankura, and

(2) thereafter up to the 31st August 1961 as District Compensation Officer, Midnapore.

Nadia.—No. 10054L. Ref.—22nd June 1961.—
he Governor is pleased to reappoint Shri B. G.
anjilal, retired Sub-Deputy Magistrate and Sub-
eputy Collector, re-employed as District Com-
ensation Officer, Nadia, to act in his present post
r the period from the 1st June 1961 to the 31st
ugust 1961, as a special case.

By order of the Governor,

H. L. CHAKRAVARTI, Dy. Secy.

Requisition

NOTIFICATIONS

No. 9354Reqn.—14th June 1961.—Whereas the
emises specified in the schedule below were
quisitioned under sub-section (1) of section 3 of
e West Bengal Premises Requisition and Control
emporary Provisions) Act, 1947;

And whereas no agreement can be reached in
spect of the amount of monthly compensation
yable on account of such requisition of the said
emises;

Now, therefore, in exercise of the power con-
rred by clause (b) of sub-section (1) of section
of the said Act, the Governor is pleased to
ppoint Shri T. P. Mukherjee, District and
ssions Judge, Hooghly, as an Arbitrator for the
etermination of the amount of such compensation.

The Schedule

Holding No. 865 of 57, 58, Barrabazar,
handernagore, ward No. 1 of Chandernagore
unicipal Corporation, district Hooghly.

By order of the Governor,

is pleased to transfer, in the int
service, Shri Bhugendra Naray
Tribal Welfare Officer, from th
Burdwan to the district of Hoogh
him at the headquarters station of

No. 3084T.W.—22nd June 1961.
is pleased to transfer, in the inte
service, Shri Bani Kantha Das
Welfare Officer, from the district
the district of Nadia and to post hi
quarters station of that district.

No. 3085T.W.—22nd June 1961.
is pleased to transfer, in the inte
service, Shri Bhola Nath Das,
Officer, from the district of
district of Murshidabad and to po
headquarters station of that district

No. 3086T.W.—22nd June 1961.
is pleased to transfer, in the inte
service, Shri Shanti Kumar
Welfare Officer, from the district
to the district of Burdwan and to
headquarters station of that distric

By order of t

D. MAJUMD

DEPARTMENT OF AGRICUL FOOD PRODUCTIO

Agriculture

NOTIFICATION

No. 5893Agri.—15th June 1961.
is pleased to appoint Shri S. C. Cha
Additional District Magistrate, 24
Howrah, as Joint Director of Agricul
tration) in the Directorate of Agr
Bengal, until further orders.

By order of the

A. K. DAS GUP

No. 6120Agri.—22nd June 1961.
has been pleased to appoint the
manent Officers of the Subordinate
Service, Class I, now officiating
Bengal Agricultural Service, in post
each, as Superintendents of A
probation in the latter service wit
8th June 1961:—

(1) Shri Jnan Ranjan Paul
Chinsurah Agricultural Sc

(2) Shri Ujjal Kanti Nath R
Ramie Development Officer

(3) Shri Birendra Lal Bhowmi
dent of Agriculture, Darje

By order of the

indra ?.—23rd June 1961.—In conti-
nash tion No. 1043Agri., dated the
san G 9, the Governor is pleased to
ipada tate Coconut Development Board,
kim th the following members:—

al Ki iamentary Secretary, Agriculture
sh P ood Production Department—
pati n.

eshnat ctor of Agriculture, West Bengal
in Be er.

ta D strar, Co-operative Societies, West
ndran —Member.
krish

hak ty Secretary to the Government
Bengal, Agriculture and Food
endran on Department (Agriculture)—
hindra

hhida ty Secretary to the Government of
ke To engal, Cottage and Small Scale
ndra es Department—Member.

r Das al Officer, Lac and Coir, Indus-
dhar partment—Member.
udira

l Cha . Sanyal, Deputy Secretary to the
ndran ment of West Bengal, Refugee,
ndra and Rehabilitation Department—

ipada
ari M tary, Indian Central Coconut
hashy tee—Member.

a Gob . Roy, post office Jaduberia via
njan a, district Howrah—Member.

kim S
huti B an Chandra Samanta, 12B Netaji
Road, Calcutta-1—Member.

ina A K. Mullick, Proprietor, Messrs.
hallad i Charan Mullick & Co., 167/4
ada K tola Street, Calcutta—Member.

nupad bakar Chakraborty, post and
ish Ch Raghudevpur, district Howrah—
shna P

hindra i Kumar Chakraborty, M.L.C.,
ananda ce and village Kodalia, district
ananda anas—Member.

ada M ndra Nath Bose, Secretary, Abhoy
Pakhi post office Birati, district 24-Par-
endra Member.

hangsh mal Chandra Ghosh, M.L.A., post
vini D nd village Beldanga, district Mur-
utosh d—Member.

ttaranj . Choudhury, Special Officer (Pota-
Vest Bengal—Secretary.

1961.

4. The functions of the Board will be to advise the Government on all matters connected with the development of coconut in this State (as food crop and also as the source of raw materials for the coir industry): review the progress of work done in this sphere from time to time and examine the programme relating to the development of coconut in this State, which would be essentially necessary, keeping in view the present position of the State finances.

5. The Board shall meet quarterly.

6. The Secretary shall convene meetings of the Board with the approval of the Chairman.

7. The Chairman of the Board may, by resolution, appoint Standing Committee or Ad hoc Committees for consideration of any special matters relating to the development of coconut in this State. The Chairman shall have powers to invite any person to be present at a meeting of the Committee and to take part in its deliberations.

By order of the Governor,

R. GHOSH, Secy.

FORESTS DEPARTMENT

Forests

NOTIFICATION

No. 3751For.—23rd June 1961.—The Governor is pleased to allow Shri K. L. Lahiri, W.B.S.F.S., Conservator-General of Forests, West Bengal, earned leave for 21 days with effect from the 12th July 1961, under rule 167(a) of the West Bengal Service Rules, Part I.

By order of the Governor,

N. N. AKHRADHARY, Dy. Secy.

DIRECTORATE OF AGRICULTURE

(To be substituted for the memorandum bearing the same No. and date.)

No. 6533—22nd May 1961.—Earned leave for sixty-five days with effect from 10th January 1961 is hereby granted to Shri Subrata Sen, Special Officer, Crop Research, in terms of rule 167(a)(i) of West Bengal Service Rules, Part I, as amended in Finance (Audit) Department notification No. 2348F., dated the 1st August 1960.

Certified that Shri Sen is likely, on the expiry of such leave, to return to the station from which he proceeds on leave.

H. K. NANDI, Director.

NOTIFICATIONS

No. 1398Co-op./1D-1/61.—21st June 1961.—In exercise of the power conferred by clause (b) of sub-rule (1) of rule 28 of the Bengal Co-operative Societies Rules, 1942, as subsequently amended, read with bye-law No. 28(e) of the Registered Bye-laws of the Balia Co-operative Multipurpose and Marketing Society Ltd., district Nadia, the Governor is pleased to appoint—

(1) the Block Development Officer, Chakdah,

(2) the Subdivisional Agricultural Marketing Officer, Ranaghat,

(3) Shri Rajendra Lal Das, village Dubra, post office Gouripur, district Nadia,

as representatives of the State Government to the Managing Committee of the Balia Co-operative Multipurpose and Marketing Society, Ltd., district Nadia.

By order of the Governor,

N. N. CHATTERJEE, Secy.

No. 1417Co-op./2E-67/61.—22nd June 1961.—The Governor is pleased to confirm Shri Ahi Bhusan Misra, probationary Assistant Registrar of Co-operative Societies, in his appointment as Assistant Registrar of Co-operative Societies, with effect from the 4th December 1960.

By order of the Governor,

N. N. CHATTERJEE, Secy.

REFUGEE RELIEF AND REHABILITATION DEPARTMENT

E & S

NOTIFICATION

No. 6065E & S.—27th June 1961.—The Governor is pleased to allow Shri Sudhir Chandra Ghosh, District Rehabilitation Officer, Birbhum, earned leave for 10 days with effect from 18th May 1961 under rule 168(i) of the West Bengal Service Rules, Part I.

By order of the Governor,

S. MAJUMDAR, Dy. Secy.

of the powers conferred by sub
section 9 of the Calcutta Universi
Chancellor of the Calcutta Univ
to approve of the appointment
Syndicate, of Shri Satis Chand
Treasurer of the Calcutta Univers
Member of the Senate, to exercis
perform the duties of the Vic
addition to his own duties, durin
Dr. Subodh Mitra, the present
from India, with effect from the 3
until he resumes charge of his du

By order of

D.

EDUCATION DEPART

Education

NOTIFICATIONS

No. 2256Edn(G)/9B-8/60/61.—
—In exercise of the power conferr
(1) of section 8. of the Bengal
Education Act, 1930 (Bengal Ac
the Governor is pleased hereby
Kalobaran Ghosh, who has been
District School Board of Howra
dent of the said board.

2. In exercise of the power con
9 of the said Act, the Governor i
to publish the name of Shri Kal
the President of the District S
Howrah.

By order of

K. LAHIR

No. 1678Edn(A)/4A-166/59.
1961.—The Governor is pleas
Shri Saurindra Kumar Ba
to act as Lecturer in
Darjeeling Government College
Bengal Junior Educational Service
for a period not exceeding thr
effect from the date on which he j

No. 1697Edn(A)/4A-100/61.—2
—The Governor is pleased to app
Kumar Pal, MSc., to act as Lectu
at the Chandernagore College in
Junior Educational Service (Men'
period not exceeding three months
the date on which he joins the pos

No. 1698-Edn. (A)/4A-100/61.—
—The Governor is pleased to app
Kanti Dutta, M.Sc., to act
Geography at the Chandernagore
West Bengal Junior Educationa
Branch), for a period not exceedi
with effect from the date on whic
post.

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College, Calcutta, in the West Educational Service (Men's period not exceeding three months the date on which he joins the ummer vacation of the college in Shankar Kumar Basu Mallick.

1.(A)/4A-44/60/61. — 23rd June overnor is pleased to allow akravarty, M.A., officiating Lectu- Maulana Azad College, Calcutta, in gal Junior Educational Service to continue to act in that post and for a further period of three ect from 1st June 1961.

1.(A)/4A-44/60/61. — 23rd June vernor is pleased to appoint Acharyya, M.A., to act as Lecturer jeeling Government College in the anior Educational Service (Men's ffect from the date on which he vice Shri Pranab Kumar Ghosh til further orders. this Department notification), dated the 1st May 1961.

(A)/A-4A-137/60/61.—23rd June overnor was pleased to allow r Ali, M.A., officiating Lecturer in na Azad College, Calcutta, in the unior Educational Service (Men's inue to act in that post and in that rther period up to the commence- mer vacation of the college in 1961 the 2nd March 1961.

1.(A)/A-4A-239/60. — 23rd June Governor is pleased to allow handra Biswas, M.Sc., officiating thematics, Krishnagar College, in gal Junior Educational Service , to continue to act in that post e service for a further period of ith effect from the 15th June 1961 s filled up by a Public Service Com- ee, whichever is earlier.

(A)/4A-108/61.—23rd June 1961. is pleased to appoint Shri Benoy , B.Sc., B.T., Dip.-in-Education hief Inspector, Secondary Educa- gal, in the West Bengal Senior vice (Men's Branch), to act, in own duties, as Chief Inspector for ation, West Bengal, in the West Educational Service (Women's effect from the date on which he ies of the post, vice Sm. Manorama nd until further orders.

By order of the Governor,

D. M. SEN, Secy.

Correction to the Central Government's Compilation of Treasury Rules, volume I (First Edition/Fifth Reprint).

No. TM/795. — 19th June 1961. — All Treasury and Sub-Treasury Officers in West Bengal, all Heads of Offices of the Central Government and the Manager, Reserve Bank of India, Calcutta, may please note the following further corrections made to the Central Treasury Rules, volume I.

Correction Slip No. 319

Page 69, Rule 217.

Insert the following as a new Note No. 3 below this rule:—

Note 3.—Pay and Establishment bills of the Manipur Administration may be signed and presented at Imphal Treasury seven days before the last working day of the month.

[Vide Government of India, Ministry of Finance (Department of Economic Affairs) No. 10(20)-B/61, dated 9th June 1961; Dy. TM/1028; filed in Bte. TM/23-3 of 1961-62.]

R. S. MAUNDER,
Dy. Accountant-General (Administration).

OFFICE OF THE POSTMASTER-GENERAL, WEST BENGAL CIRCLE

NOTIFICATION

No. SFA/A-207.—20th June 1961.—Shri S. M. Banerjee, Assistant Engineer (in Telegraph Engineering and Wireless Service—Class II), is granted earned leave for twelve days with effect from the 12th June 1961 with permission to prefix holiday on the 10th June 1961 and Sunday, the 11th June 1961, and to suffix holiday on the 24th June 1961 and Sunday, the 25th June 1961.

MADAN KISHORE,
Postmaster-General.

ORDERS AND NOTIFICATIONS BY COMMISSIONERS OF DIVISIONS

Burdwan Division—Chinsura

No. 1698J.G.—18th June 1961.—In accordance with the provisions of rule 56(1) of chapter IV of the Bengal Jail Code, volume I, seventh edition, I hereby appoint Shri Kali Charan Ghosh, M.L.C., to be a non-official Visitor in the Chandernagore sub-jail in the district of Hooghly for a period of one year with effect from the date of this notification.

I. B. SURITA, Commissioner

In exer ub-paragraph 1 of paragraph 11 of the West Bengal Soft Coke Distribution Order, 1955, I do hereby extend up to 30th June 1961 the validity of all licenses issued in Sadar subdivision of this istrict for the year 1960-61 under paragraphs 6, and 8 of the said order.

A. K. DUTT,
District Magistrate.

OFFICE OF THE DISTRICT PANCHAYAT OFFICER, MIDNAPORE

NOTIFICATION

No. 1560C.P.—23rd June 1961.—It is hereby notified for general information that the following persons have been duly elected as members of the Anchal Panchayats noted below in Mayna police-station :—

Mayna Anchal Panchayat

1. Shri Abul Hossen Mullick.
2. Shri Abdul Rahaman Khan.
3. Shri Refat Khan.
4. Shri Joytirmayananda Bahubalindra.
5. Shri Dharani Maity.
6. Shri Bana Behari Das.
7. Shri Monindranath Maji.
8. Shri Bhim Charan Maity.
9. Shri Monindranath Bhowmik.
10. Shri Sasankasekhar Maity.
11. Shri Mritunjoy Bhowmik.
12. Shri Madhab Chandra Das.
13. Shri Harakali Bhattacharjee.
14. Shri Kshudiram Das.
15. Shri Kshudiram Kuily.
16. Shri Golam Rasul Khan.
17. Shri Naresh Chandra Maity.
18. Shri Bishnupada Gantait.
19. Shri Gnanendranath Bhowmik.
20. Shri Atul Chandra Maity.
21. Shri Parameswar Das.
22. Shri Anil Chandra Singh.
23. Shri Gobinda Prasad Dolai.
24. Shri Gopal Mondal.
25. Shri Bhimacharan Maity.
26. Shri Abinash Maity.
27. Shri Troilakya Mani.
28. Shri Bhupati Maity.
29. Shri Shyam Maity.

5. Shri Surendranath Maity.
6. Shri Monindranath Das.
7. Shri Haripada Das.
8. Shri Radhanath Jana.
9. Shri Kshirode Chandra
10. Shri Gour Hari Maity.
11. Shri Gnanendranath Bera.
12. Shri Upendranath Das.
13. Shri Chintamani Adhikar
14. Shri Rejabal Haque.
15. Shri Layakat Hossein.
16. Shri Jafer Ali.
17. Shri Noni Gopal Choudhu

Srikantha Anchal Panc

1. Shri Amulyacharan Pattan
2. Shri Alauddin Sk.
3. Shri Patit Paban Maity.
4. Shri Sateswar Maity.
5. Shri Harkali Bhattacharjee
6. Shri Gour Hari Quilya.
7. Shri Bhusan Adhikary.
8. Shri Soid Moin Khandaka
9. Shri Satish Pattanayak.
10. Shri Bhusan Jana.
11. Shri Sanatan Jana.
12. Shri Krishnadas Pradha
13. Shri Panchanan Jana.
14. Shri Sabiruddin.
15. Shri Gostha Behari Monda
16. Shri Irsad Ali.
17. Shri Nagendranath Das.

Gokulnagar Anchal Pan

1. Shri Abinash Hatoi.
2. Shri Prabhas Maity.
3. Shri Kalipada Bera.
4. Shri Bhuban Maity.
5. Shri Motilal Mondal.
6. Shri Jogendra Samanta.
7. Shri Kalipada Maji.
8. Shri Bankim Behari Sama
9. Shri Bishnupada Samanta.
10. Shri Sudhir Kumar Ghora
11. Shri Rakhal Chandra Ra
12. Shri Paban Chandra Pram
13. Shri Din Mahammad.
14. Shri Bhuban Chandra Tel
15. Shri Abdud Daian.
16. Shri Gour Hari Bhowmik
17. Shri Beharilal Paul.
18. Shri Jotindranath Bhowm
19. Shri Prahallad Das.
20. Shri Joti Samanta.

ndranath Samanta.
nash Barman.
san Chandra Das.
pada Jana.
kim Das.
l Kishore Das.
sh Pradhan.
pati Maity.
shnath Maity.
n Behari Hazra.
a Das.
ndranath Maity.
krishna Samanta.

nak Anchal Panchayat

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indranath Bhunia.
hidananda Maity.
e Toru Bera.
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Das.
lhar Jana.
diram Guchhait.
Chandra Manna.
dranath Manna.
dranath Das.
pada Mondal.
ri Mohan Das.
ashyam Maity.
Gobinda Guchhait.
jan Maji.
m Samanta.
ti Bhusan Bar.

a Anchal Panchayat

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anda Mondal.
anda Mondal.
a Maity.
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dra Barai.
ngshu Mondal.
i Das.
osh Maity.
ranjan Jana.

2. Shri Bhutnath
3. Shri Upendranath Mondal.
4. Shri Khagen Mondal.
5. Shri Gadadhar Roul.
6. Shri Girish Bera.
7. Shri Pashupati Misra.
8. Shri Surendra Bhunia.
9. Shri Iswar Bar.
10. Shri Gunadhar Bar.
11. Shri Saktidhar Manna.
12. Shri Basudev Barai.
13. Shri Rampada Tati.
14. Shri Sanatan Barman.
15. Shri Kowtuk Bag.
16. Shri Kowtuk Barai.
17. Shri Pitambar Barman.
18. Shri Nibaran Gantha.
19. Shri Banamali Bhunia.
20. Shri Bipin Dey.
21. Shri Mahadev Baroi.
22. Shri Bishnu Paramanik.
23. Shri Bankim Patra.
24. Shri Matilal Mondal.
25. Shri Sadhan Patra.
26. Shri Sudhir Maity.

Naichhanpur Anchal Panchayat

1. Shri Kanailal Dhara.
2. Shri Dhirendranath Bal.
3. Shri Rakhal Chandra Santra.
4. Shri Samsed Ali.
5. Shri Binode Pramanik.
6. Shri Rajani Maity.
7. Shri Dharani Maity.
8. Shri Panchanan Das.
9. Shri Bholanath Barman.
10. Shri Monoranjan Das.
11. Shri Iswar Chandra Jana.
12. Shri Kunja Mondal.
13. Shri Jiban Jana.
14. Shri Banamali Pramanik.
15. Shri Haripada Patra.
16. Shri Sarat Chandra Mondal.
17. Shri Kunja Behari Maity.
18. Shri Haren Jana.
19. Shri Pashupati Adhikary.
20. Shri Krishnadas Mondal.
21. Shri Himangshu Sekhar Das.
22. Shri Rash Behari Bera.
23. Shri Jiban Chandra Hazra.

K. M. RAY

No. 1562C.P.—23rd June 1961.—It is hereby tified for general information that the following rsons have been duly elected as Pradhans and pa-Pradhans of the Anchal Panchayats noted low in Moyna police-station:—

Moyna Anchal Panchayat.

Shri Gnanendranath Bhowmic, Pradhan.
Shri Naresh Chandra Maity, Upa-Pradhan.

Tilkhoja Anchal Panchayat.

Shri Manindranath Das, Pradhan.
Shri Rezaball Haque, Upa-Pradhan.

Srikantha Anchal Panchayat.

Shri Harakali Bhattacharjee, Pradhan.
Shri Satish Pattanayak, Upa-Pradhan.

Gokulnagar Anchal Panchayat.

Shri Kalipada Maji, Pradhan.
Shri Jogendranath Samanta, Upa-Pradhan.

Ramchak Anchal Panchayat.

Shri Ashoke Toru Bera, Pradhan.
Shri Kalipada Mondal, Upa-Pradhan.

Gojina Anchal Panchayat.

Shri Ashutosh Maity, Pradhan.
Shri Bishnupada Jana, Upa-Pradhan.

Bakcha Anchal Panchayat.

Shri Sanatan Barman, Pradhan.
Shri Bankim Patra, Upa-Pradhan.

Naichhanpur Anchal Panchayat.

Shri Rakhal Ch. Santra, Pradhan.
Shri Jiban Jana, Upa-Pradhan.

K. M. RAY,
District Panchayat Officer.

Orders by the Deputy Inspector-General of Police
Western Range

No. 6575.—16th June 1961.—**Purulia-G.R.P., Howrah.**—Notification No. 1386, dated 17-2-1961, published in the "Calcutta Gazette", dated 9-3-1961 in so far as it relates to the transfer of Sarvashri Bhupati Nath Banerji, Inspr., Purulia, and Jnanesh Chandra Dutta Chowdhury, Inspr., G.R.P., Howrah, to G.R.P., Howrah and Purulia, respectively, is cancelled.

1932 (Bengal Act XV of 1932), th
Chandra Ghosh and Shri Hiren
elected Chairman and Vice-Chairm
of the Naihati Municipality in t
Parganas on 15th May 1961.

No. 891/R.G.—26th June 19
Haran Sen Gupta, Block Dev
Beldanga I, Murshidabad, is ap
Officer (ex-officio) in respect of
ment Block, Murshidabad, in add
duties during the period of absen
Shri Chittaranjan Sen Majumdar

K. C. BASA

Presidency Division—Ja

OFFICE OF THE DISTRICT
OFFICER, COOCH B

No. G/5645/XXX-6.—22nd Ju
hereby notified for general info
following persons have been
Pradhans and Upa-Pradhans
Panchayats noted below in T
station:—

Falimari Anchal Panch

Shri Naresh Chandra Mullick,
office Falimari, Pradhan.
Shri Heramba Chandra Das, U

Rampur Anchal Panc

Shri Tarani Mohan Sarkar, Prad
Shri Jogesh Chandra Chanda,

Mahishcuchi Anchal Pa

Shri Jamini Kr. Sarkar, Pradh
Shri Digendra Chandra Saha, U

Bhanukumari Anchal Pa

Shri Raj Kumar Sarkar, Pradh
Shri Ramananda Prodhan, Upa-

Barakodali Anchal Panc

Shri Amulya Sen Isore, Pradha
Shri Jogesh Chandra Sarkar, U

Balarampur Anchal Pan

Shri Kamalendra Narayan, Pra
Shri Gour Chandra Roy, Upa-

Deocharai Anchal Pancha

Shri Nagendra Nath Bepari, Pr
Shri Nizabuddin Ahmed, Upa-

Marugunj Anchal Panc

Shri Prana Nath Biswas, Prad
Shri Lalit Chandra Roy, Upa-Pr

Chilakhana Anchal Pan

Shri Fazlur Rahaman, Pradhan.
Shri Parbananda Barman, Upa-

Natabari Anchal Panch

Narayan Mandal, Upa-Pradhan.

ari Anchal Panchayat.

Nath Patowari, Pradhan.
Iandal, Upa-Pradhan.

Fulbari Anchal Panchayat.

Deb Nath, Pradhan.
h Roy, Upa-Pradhan.

igach Anchal Panchayat.

Chandra Roy, Pradhan.
in Mia, Upa-Pradhan.

J. C. SINHA,
District Panchayat Officer.

XX-8.—22nd June 1961.—It is for general information that the s have been duly elected as Anchal-Panchayats noted below in -station:—

bari Anchal Panchayat.

mulla Sarkar
endra Nath Roy
reshwar Deb Nath
hi Kanta Roy
hik Chandra Adhikary
oy Charan Roy
y Chandra Roy
anta Kr. Roy
ary Mohan Roy
gendra Nath Roy
ish Chandra Roy
endra Nath Roy
im Chandra Roy
iya Nath Barman
neruddin Miah
adish Chandra Roy

Fulkadabri Anchal Panchayat.

hkar Roy Chowdhury
ru Nath Roy
lim Barman
ajendra Barman
zendra Narayan Barman
nai Lal Singha Sarkar
endra Roy Dakua
endra Nath Roy
rendra Nath Singha Sarkar
ananda Singha Sarkar
anendra Nath Roy
a Kr. Roy Chowdhury

araf Anchal Panchayat.

fiz Uddin Mahammad
izuddin Mahammad
ebmalla
abendra Barman
lindra Nath Roy
edek Barman.
timahan Barman
amath Sil Sarma
anindra Nath Chowdhury
otish, Chandra Roy

1. Shri Kashemuddin
2. Shri Kasem Ali Mahammed
3. Shri Narendra Nath Barman
4. Shri Sarbeswar Barman
5. Shri Gadila Adhikary
6. Shri Mafizuddin Mahammed
7. Shri Surya Mohan Barman
8. Shri Sitanath Singha Sarkar
9. Shri Chabaruddin Mahammed

Changrabandha Anchal Panchayat

1. Shri Pran Ballav Ghosh
2. Shri Ganendra Nath Ghosh
3. Shri Bamkim Chandra Sarkar
4. Shri Jogan Nath Prosad Kanu
5. Shri Kanti Pada Singha
6. Shri Pran Nath Roy
7. Shri Abu Taleb Prodhan.
8. Shri Osman Goni
9. Shri Azendra Barman
10. Shri Deb Kanta Roy Sarkar
11. Shri Chepu Mahammed
12. Shri Bazley Karim Rahaman
13. Shri Ram Prem Barman
14. Shri Ananta Deb Adhikary
15. Shri Jagat Chandra Barman
16. Shri Aphizar Rahaman Prodhan

Ranirhat Anchal Panchayat.

1. Shri Mantu Roy
2. Shri Biswa Nath Roy Chowdhury
3. Shri Jyotish Chandra Roy Chowdhury
4. Shri Rani Dhan Goswami
5. Suchangshu Mohan Ghosh
6. Shri Prokash Ch. Basu-Mia
7. Shri Gopal Ch. Mitra
8. Shri Rup Chandra Roy
9. Shri Sarat Chandra Barman
10. Shri Lalu Roy
11. Shri Thelthela Barman
12. Shri Ananta Roy Prodhan
13. Shri Glok Chandra Roy
14. Shri Khagen Roy

Uchalpukuri Anchal Panchayat

1. Shri Subodh Chandra Barman
2. Shri Ramesh Chandra Barman
3. Shri Madan Barman
4. Shri Gobindra Chandra Barman
5. Shri Nagendra Nath Sarkar
6. Shri Raj Kanta Adhikary
7. Shri Upendra Roy
8. Shri Jogendra Nath Barman
9. Shri Akshoy Kumar Roy
10. Shri Priya Nath Roy
11. Shri Jitendra Nath Roy Prodhan
12. Shri Basu Barman
13. Shri Batu Barman
14. Shri Bhabendra Nath Barman
15. Shri Monakanta Roy
16. Shri Nalini Kanta Roy
17. Shri Kashem Ali Mahammed

2. Shri Bhabendra Nath Barman
3. Shri Madhu Sudan Padhadhar
4. Shri Raman Mohan Barman
5. Shri Nripendra Nath Roy Majhi
6. Shri Surendra Nath Roy Dakua
7. Shri Ghengaru Barman
8. Shri Vidyasagar Singha
9. Shri Topsiprasad Sing
10. Shri Manindra Kr. Ghose
11. Shri Mal Chand Gebra
12. Shri Muluk Chand Karjee
13. Shri Banikanta Roy Basumia
14. Shri Charu Chandra Roy Sarkar
15. Shri Agendra Nath Barman
16.

J. C. SINHA,
District Panchayat Officer.

No. G/5643/XXX-8.—22nd June 1961.—It is ereby notified for general information that the ollowing persons have been duly elected as Prodhans and Upa-Prodhans of the Anchal anchayats noted below in Mekliganj police-tation:—

Kuchlibari Anchal Panchayat

Shri Ragendra Nath Roy, Pradhan.
Shri Birendra Nath Roy, Upa-Pradhan.

Bagdokra Fulkadabri Anchal Panchayat

Shri Peskar Roy Chowdhury, Pradhan.
Shri Jogendra Nath Roy, Upa-Pradhan.

Niztaraf Anchal Panchayat

Shri Kalindra Nath Roy, Pradhan.
Shri Rati Mohan Barman, Upa-Pradhan.

Bhotebari Anchal Panchayat

Shri Sarbeswar Barman, Pradhan.
Shri Mafizuddin Mahammed, Upa-Pradhan.

Changrabandha Anchal Panchayat

Shri Prana Nath Roy, Pradhan.
Shri Bamkim Chandra Sarkar, Upa-Pradhan.

Ranirhat Anchal Panchayat

Shri Jyotish Chandra Roy Chowdhury, Pradhan.
Shri Lalu Roy, Upa-Pradhan.

Uchalpukuri Anchal Panchayat

Shri Bhabendra Nath Barman, Pradhan.
Shri Nagendra Nath Sarkar, Upa-Pradhan.

Jamaldah Anchal Panchayat

Shri Vidyasagar Singh, Pradhan.
Shri Agendra Nath Barman, Upa-Pradhan.

J. C. SINHA,

No. 645PAN/SP/X 11/61.—5t
is hereby notified for general inf
following persons have been
Pradhan and Upa-Pradhans of the
yats noted below in Kalimpong p

Samthar Anchal Panch

Shri Lethop Lama, Pradhan.
Shri Sathp Temba Fudung, Upa

Pudung-Echhay Anchal P

Shri Barsin Lepcha, Pradhan
Shri Sonam Wangdi Bhutia, U

Sindipong Anchal Panc

Shri P. M. Prodhan, Pradhan.
Shri B. B. Prodhan, Upa-Pradha

Nimbong Anchal Panc

Shri Parmananda Lepcha, Prad
Shri Nesing Lepcha, Upa-Prad

Kalimpong Anchal Pan

Shri Tikaram Burman, Pradha
Shri Rakhal Chandra Talukdar,

Samlbong Anchal Panc

Shri Ran Bahadur Gurung, Pra
Shri Birman Lama, Upa-Pradha

Seokbir Anchal Panch

Shri Harkabahadur Lama, Pra
Shri Lal Bir Lama, Upa-Pradha

Bhalukhop Dr. Graham's Homes An

Shri P. R. Prodhan, Pradhan.
Shri L. T. Simick, Upa-Pradha

Bong-Dungra Anchal Pa

Shri Kharananda Sharma, Prad
Shri B. K. Subba, Upa-Pradhan

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